# A Study OF TWINS IN HEALTH AND DISEASE.

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THE simultaneous start on the voyage of life of two identical individuals presents a unique opportunity of observing the development of hereditary characteristics and of comparing them with those resulting from the "changes and chances of this mortal life." As Francis Galton[1] aptly expresses it, "twins have a special claim upon our attention; it is that their history affords means of distinguishing between the effects of tendencies received at birth, and of those that were imposed by the special circumstances of their after-lives." Thus we find that the lives and characters of twins have always afforded a fascinating theme both in fact and fiction.

A study of the pathology of disease as it affects the different races of mankind has yielded much useful information as to modes of infection and variations in immunity. The occurrence of familial diseases, such as hæmophilia, is also highly instructive, but an examination of the incidence of disease in twins provides special opportunities for tracing the origin of certain maladies. The material for such an inquiry is probably much greater than might be expected, for Siemens[2] was able to obtain in Munich alone the addresses of 100 homologous twins of which he had been able to examine 50 pairs. In this country there must be a great deal of useful information as to the health and progress of twins which has been gathered at the various welfare centres and which only awaits investigation to yield valuable results.

## CLASSES OF TWINS.

There are three distinct classes of twins, and so many synonymous terms have been used in describing them that confusion is apt to arise if their meaning is not clearly understood. First, there is the most important class of twins which arise from a single ovum and are described as "monozygotic," "homologous," "monochorionic," "uniovular," "one-egg," "similar," or "identical" twins. Second, there are those which arise from two separate ova fertilised at the same time, known as "dizygotic," "heterologous," "dichorionic," "binovular," "two-egg," "dissimilar," "fraternal," or "pigeon" twins. Third, there are the conjoined twins which show all degrees of conjunction from a slight union, as in the case of the Siamese twins, up to a high degree of fusion as in the various forms of double monsters, which are always developed from a single ovum.

Uniovular twins are always of the same sex, they are always enclosed in a single chorion, and are provided with a single placenta. They are usually almost identical in appearance, and are the most important in considering the incidence of disease in such similar individuals. Homologous twins are not common, and the definite proof of their origin from a single ovum can only be obtained by an examination of the placenta and fœtal membranes at the time of their birth. As such evidence is rarely obtainable we must, for all practical purposes, conclude that when twins of the same sex are alike in appearance, with the same colour of hair and eyes, and the same type of skin they are monozygotic in origin. Binovular twins are not of so much interest, as they do not resemble each other more closely than other brothers and sisters born at different times, but they are subjected to similar influences during gestation and early childhood. They may be either of the same or of opposite sexes. Conjoined twins, when viable, are of interest as they are uniovular, but few of them survive.

## FREQUENCY AND PROPORTION OF MULTIPLE BIRTHS.

The frequency of multiple births varies in different localities. Kleinwachter[3] quotes statistics collected by Wappaus of 19,698,322 pregnancies, which resulted in the birth of 19,930,556 children. In this large number there were 19,468,832 single children, 226,807 twins, 2623 triplets, 59 quadruplets, and 1 quintuplet, which gives 1 twin birth in about every 87 pregnancies. The proportion of twin births varies in different towns: thus Kurschner found there was 1 twin birth to 158 single births in Naples, 1 to 126 in Palermo, 1 to 88 in Berlin, 1 to 85 in London, 1 to 84 in Paris, 1 to 74 in Vienna, 1 to 52 in Heidelberg, and 1 to 57 in Dublin. Of 1,339,975 births in the United States in 1917, 1 in 93 was a twin birth (Abt).[4] It has been estimated by Newman[5] that one-half of the twins of the same sex are uniovular and that one-fourth of the total number of human twins belong to this class, whereas Ballantyne[6] estimates that similar twins occur in only 12·25 per cent. of all twin births. It is therefore not surprising that, while we find extraordinary similarity in some twins, in the majority there are well-marked differences.

## CAUSES OF TWINS.

It has generally been considered that "identical" twins are the result of fertilisation of a single ovum by two spermatozoa. Little, however, is really known of the causes of twinning in man. The experiments of Newman on the eggs and embryos of the starfish of the Pacific coast (*Patiria miniata*) led him to the conclusion that a retardation of the rate of development, such as occurs in unfertilised parthogenetic eggs, or in those which are too crowded, is a direct cause of twinning. He quotes Korchelt's experiment in which, after excision of a central portion of an earthworm, the anterior and posterior portions regenerate into double or even triple heads or tails, and regards this as a result of retardation following the operation. This question has also been studied in fish and especially in trout, and separate one-egg twins are believed to arise either from the appearance of two embryonic rudiments on one blastoderm or the presence in the egg of two separate blastoderms. In trout there also occur conjoined twins of the "autosite-parasite" variety which occurs in man as in the case of "Lulu." Identical twins may also arise in trout. In the armadillo of Texas (*Dasypus novemcinctus texanus*) two pairs of twins (quadruplets) normally are developed from a single ovum so that all members of the litter are of the same sex and all are alike, and Newman suggests that this is also due to retardation of the development resulting from slow action of the corpus luteum.

## DIFFERENCES AND SIMILARITIES OF TWINS.

In uniovular twin pregnancy in women a larger number are males and the mothers are usually near either the beginning or the end of the child-bearing period. The difference in weight at birth is often considerable, and this is attributable to an inequality in the vascular supply to each twin during pregnancy. Abt[4] mentions a case in which at birth one twin weighed 6 lb. and the other only 3 lb. Three years later the former was normal and the latter defective in development and weighed only 20 lb.

All the familiar anecdotes of the mistakes and practical jokes which have arisen from the similarity of twins relate to the uniovular variety. This type of twin has often afforded useful material for the dramatist and for the novelist. The Heavenly Twins, Castor and Pollux, the sons of Leda, according to classical tradition, were the result of the union of Zeus, in the form of a swan, with their mother. One tradition even states that Leda brought forth two eggs, from one of which Castor and Pollux were born and Helen from the other, so that they were one-egg twins. The earliest play in which twins appear is the "Menaechmi" of Plautus. In this play the similarity between Menaechmus of Epidamnus and Menaechmus Sosicles is thus described by Messenio, the servant of

the latter: "But I never beheld one person more like another person. Neither water, believe me, is ever more like to water nor milk to milk, than he is to you, and you likewise to him."[7] Owing to this remarkable similarity the brothers, who are unaware of each other's presence in Epidamnus, unwittingly personate each other on various occasions and so give rise to many amusing situations until mutual recognition solves their difficulties at the end of the play. The "Comedy of Errors" is largely based on this play, but the situations are rendered rather more complicated by the introduction of the twin Dromios as attendants on the twin brothers Antipholus of Syracuse and Antipholus of Ephesus. In the words of the Duke of Ephesus:—

> "These two Antipholuses, these two so like,
> And these two Dromios, one in semblance."

Shakespeare well expresses the similarity of two pairs of homologous twins. It is notable that in this play these twins are rightly of the same sex, whereas in *Twelfth Night* Viola, dressed as a man, is identical in appearance and manner with her twin brother Sebastian, so that when they meet Orsino exclaims:—

> "One face, one voice, one habit, and two persons;
> A natural perspective that is and is not."

and Antonio asks:—

> "How have you made division of yourself?
> An apple, cleft in two, is not more twin
> Than these two creatures."

In the *Corsican Brothers* Alexandre Dumas pictures two similar twins who were conjoined at birth but separated afterwards by an operation. The two brothers Louis and Lucien are described as being closely alike in appearance though differing in temperament and in tastes. Dumas draws on his imagination however in making both twins subject to the same physical and moral sensations, so that at the moment when Louis received a fatal bullet wound beneath the right sixth rib in fighting a duel at Vincennes, Lucien, who was in Corsica, felt a violent blow in the side, then found a bright-red mark in the same situation and knew his brother had been killed. It is said that in some cases both twins suffer from their origin or that one may prove himself a better man than the other all through life. Twinship appears to be a handicap, as it has been maintained that no "similar" twins have acquired great intellectual distinction. The two Scotts of Newcastle, who afterwards became Lord Stowell and Lord Eldon, were both "dissimilar" twins, as the former was born with a sister in 1745, and the latter with another sister in 1751. It may be mentioned that in this remarkable family, a third pair of twins, a son and daughter, were still-born about 1754. Jacob and Esau, the most ancient pair of twins on record, differed so much both physically and mentally that we may conclude that they were binovular in origin. The earliest record of English twins who became famous appears to be of the "Biddenden Maids," who are reputed to have been born in 1100 in the village of this name in Kent. They lived for 34 years and left money for the making of cakes, with an impression marked upon them for distribution to the poor on Easter Day. This impression shows them united at the elbows. Ballantyne,[6] however, thinks this is improbable as it would be unique and suggests that they were probably pygopagous twins, united by the nates, and that the representation of the union by the arms was due to their going about with their arms round each other's necks. Many well-known English families have produced twins, and some more than one pair. Thus, in Brittains's well-known case a woman had 25 children, including twins 10 times. This tendency may appear in different branches of the same family. The striking similarity in the appearance of identical twins is shown in many well-known cases in all ranks of life, whose portraits not infrequently appear in the daily and weekly illustrated papers. In a recent case before the Law Courts of New Jersey it was stated that one twin, who closely resembled his brother even in his birth-marks, had so successfully personated him for two years that his sister-in-law, being ignorant of her husband's death, did not detect the fraud. When the surviving twin was accused of bigamy both his wife and his brother's widow claimed him as husband, as he used to spend five days in the week with the former in New Jersey and two days with the latter and her sons in Philadelphia.

### RESEMBLANCES IN CAREERS OF TWINS.

Not only do twins resemble each other in appearance, but in some cases they have had almost identical careers. The Gordon brothers, afterwards known as the "Gemini Generals," entered the army on the same day and both became full generals on the same day. Each became a K.C.B., and both were authorities and writers on affairs in India, where their military career was spent. Mr. R. C. Lucas[8] describes identical twin brothers who entered as medical students on the same date and passed the examinations of the Royal Colleges and also of the M.B. of London University at the same time. In the intermediate examination the total numbers of marks obtained by the two brothers were the same. The records of their work were signed 33 times by 17 teachers, and in all the 66 records the only variation was that one brother was described as "excellent" and the other as "very good indeed." So that in the opinion of 17 teachers the abilities of the two brothers were identical. A striking example of equality in games was furnished by the Allen twin brothers, who for three years in succession represented Cambridge against Oxford at lawn tennis, and were also remarkably successful in many double events at the chief tournaments. In a different walk in life may be mentioned the brothers W., who were born in 1851, have worked together since 12 years of age, and for 34 years at the same steelworks. They were married on the same day, live in adjoining houses, and each has 10 children. Both are teachers in the Sunday school and are choristers. Galton[1] collected some striking examples of this similarity and the errors which may arise from one twin being mistaken for the other. In Galton's investigation, however, he found only one case in which the hand-writing of the twins was indistinguishable by themselves, and barely two or three in which no distinction could be made by others.

Twins may resemble each other in bad as well as in good traits as both may suffer from alcoholism. Curiously enough, in the case of Chang and Eng Bunker, the Siamese conjoined twins, one drank wine freely while the other did not, and this disparity in their tastes often gave rise to domestic strife. Chang, who had been hemiplegic for several years developed bronchitis at the age of 63 and died. Eng died two hours later.

### ANATOMICAL SIMILARITIES.

The similitude of twins is found even in anatomical details. F. Sano[9] who examined the brains of two still-born twins found them very much alike in structure. In the majority of pairs of twins both are either right or left-handed. Siemens[2] examined 45 pairs of identical twins and found 35 were right-handed and only one left-handed. In nine pairs one was right and the others left-handed. The characters of twins are often similar, so that they speak with the same inflection of voice and have the same dreams. They may have the same ideas simultaneously though separated at the time; thus Galton mentions a case in which one twin, A, bought a set of champagne glasses in a town in Scotland as a surprise for his brother, B, who at the same time bought a set of exactly the same pattern in England as a present for A. The similarity between twins is not confined to the obvious and easily recognisable features, but extends even to the fine structure of the friction-skin patterns of the palms and soles which may be almost identical. Gauther and Rominger (Abt) found that there was a marked similarity in the finger prints and in the arrangement of the lines of the hands of five pairs of uniovular twins, whereas in the case of 42 pairs of binovular twins there was not the same striking

correspondence in the appearance of these lines. Symmetrical reversal is of much interest as it involves transposition of the viscera in conjoined twins. This reversal, though rare in separate twins, may appear in the finger prints which may be identical in outline but reversed, as in the case of the index fingers of identical twins observed by H. Wilder.[10] As might be expected, various forms of congenital malformations have occurred in both twins. Among these may be mentioned spina bifida, cleft palate and lip, pseudo-hermaphroditism, excess of fingers, cerebral hernia, hypospadias, and hypertrophy of the umbilicus. In most cases the twins are almost certainly uniovular. Congenital defects also occur in only one of twins, which are then probably of the binovular variety.

The birth of twins is regarded as a misfortune by some races and as a blessing by others. In Matabeleland it was attributed to the influence of evil spirits and so both twins were destroyed at birth. The Masai welcome twins, and in another tribe a special string of beads was given to the mother in honour of the occasion.

### MORTALITY OF TWINS IN EARLY LIFE.

Twins are subject to a high rate of mortality in early life. Of 3883 pairs of twins in the Moscow Infant Asylum, 62·9 per cent. died during the first few weeks of life. In half of these fatal cases both died on the same day, and in the remainder one only survived the other by a few days. After the first few weeks the highest mortality occurs in the first two years. After the fifth year the mortality of twins appears to be the same as that of other children. Dentition does not necessarily occur at the same time and may be as much as four months later in one twin than the other. Twins may live to an advanced age. The D. brothers were both alive at 81 and had worked as pilots until the previous year. The G. brothers were well and active at 91, and there is a record[11] of an inquest which was held on a woman who was a centenarian at which her twin sister gave evidence of finding the deceased lying dead on the sofa when she returned from market. From what has already been said as to the remarkable similarity of physical and mental characteristics of homologous twins, it is not surprising to find that certain deviations from normal health are apt to occur in such twins at or near the same period of life.

### HEREDITARY DEFECTS AND DISEASES IN TWINS.

The development of a disease in "similar" twins is strong evidence of it being due to some inborn or hereditary defect, whereas the occurrence of a malady in one twin and not in the other is in favour of it being due to some extraneous factor. Even during the first few days or weeks of life twins are liable to suffer from the same maladies. Thus Abt[4] mentions two boys who had simple pemphigus and two others who both developed left-sided mastitis followed by erysipelas. He also records the case of twin girls, aged 9 weeks, who both suffered from convulsions, well-marked tetany, and rickets. Abnormalities in metabolism may appear in either homologous or heterologous twins; thus Sir Archibald Garrod[12] mentions that five twin births have occurred in the known alcaptonuric families, comprising 112 recorded cases. In three of these the twins were binovular. In two pairs one twin was normal, and in the other three it is probable that only one was affected. Although alcaptonuria is a familial disorder it is notable that in no case were both twins alcaptonuric. In the pedigrees of 1000 albinos Sir Archibald Garrod found 29 records of twins, one or both of which were albinotic. In 11 pairs both were albinos, and 10 of these were of the same sex and so may have been homologous. In the case of cystinuria the same authority refers to two pairs of male twins observed by Colm and by Kietschmer, all of whom were cystinuric. My attention was first drawn to this subject by the occurrence of diabetes mellitus in twin sisters. One of this pair consulted me because she had noticed an increase in the amount of urine she was passing. She stated that her twin sister, to whom she was greatly attached, had developed diabetes mellitus about a year previously. The disease had run a rapid course and ended in coma at the end of nine months. The development of the diuresis in her own case had made her apprehensive. When I first saw her the urine was free from sugar, but she returned after an interval and was then found to be suffering from well-marked diabetes. The disease ran just the same course as in the twin sister and she also died in coma at the end of nine months. Michaelis has recorded another example in the case of twin brothers of 60, who, living in different surroundings, both developed at the same time paræsthesia of the legs, perforating ulcer of the toe, diabetes, and albuminuric retinitis, and died within a few weeks of one another. These observations tend to support the view that in some cases of diabetes there is an inborn liability to failure of the islets of Langerhans, which may, however, occur early or late according to the habits and circumstances of the patient. In any case, it behoves us to take special precautions when diabetes appears in one twin to save the other from any undue strain on his sugar metabolism by unsuitable diet. Galton mentions the case of twin brothers who were similar in appearance and tastes, both obtained Government clerkships and lived together. One developed Bright's disease, which proved fatal, and the other died of the same malady seven months later.

### MENTAL DISEASES IN TWINS.

As twins are similar in mental characters in health it is not surprising to find that they are liable to suffer from certain forms of mental and nervous disease, due in all probability to some inborn mental defect. This liability was shown by similar twin sisters observed by Marandon de Montyel.[13] They began to menstruate the same day, and suffered from identical forms of the following maladies at the same time—colds, intestinal disorder, measles, mumps, and chicken-pox. They married and became pregnant at the same time, and in the fourth month of pregnancy each suffered from acute mania with identical religious and erotic hallucinations. The children, born within 48 hours of each other, were both boys. Both mothers rapidly recovered. Mongolian idiocy is a congenital defect, the true pathology of which is unknown. It is therefore highly significant that this condition may occur in uniovular twins. Dr. A. Strauch[14] records an example of twin male mongols with typical features of the malady. On examining the literature he was only able to find two other examples of mongolism in both twins of the same sex, those recorded by Hjorth and by De Bruin, whereas in 17 cases only one was a mongol. As far as could be ascertained, it seems probable that the three former examples were uniovular twins, and all the others binovular in origin. Dr. W. H. Coupland[15] mentions the case of twin sisters, aged 11, one of whom was a typical mongol, and the other normal. The rarity of mongolism in both twins is remarkable. When it occurs in one twin it may be due to the pair being binovular in origin, or it may be due to some defect which is present in only one of two spermatozoa fertilising a single ovum. Under the name of "La Folie Gemellaire" Soukhanoff[16] collected 29 cases, and described another, of primary dementia in twin brothers. In these the insanity hardly ever developed simultaneously. Some became affected within a short period of each other, but in the others, varying periods of time, up to as much as 12 years, elapsed between the onset of the symptoms in the brothers. When one of a pair of twins becomes insane, it is most important to keep the other under observation so that any early symptoms of mental disorder may be treated at once. Sir Thomas Clouston[17] records an example in which one brother was insane, but prompt treatment of the premonitory symptoms which appeared in his brother averted any further development of mental disorder.

SIMILAR AND SIMULTANEOUS ILLNESSES IN TWINS.

Whatever view we may take of the nature and causes of asthma, there can be no doubt that a familial predisposition is an important factor in many cases. It is not surprising to find that similar twins are both affected, as in the case of two brothers who always suffered from asthma at Marseilles, but were free from it at Toulon. Both suffered from rheumatic ophthalmia at the same time, even if they were at different places (Trousseau).[18] The simultaneous onset of illness in twins is of much interest, as it may occur even when they are separated. Laycock[20] mentioned the case of the twin brothers Lautand who were nurses at a hospital in Bordeaux, who were always ill together and became affected with cataract at the same time. I have been informed of another example of this in the case of twin brothers living in different parts of Europe who both suffered from empyema at the same time. So also with migraine, as C. Gill[19] observed twin sisters who suffered from headache and biliousness at the same hour, though they were at different places. They both became insane at the same time.

In some diseases of the blood and lymphatic glands of unknown causation we find examples occurring in twins, which is suggestive that some inborn error is an important factor in their origin. Dr. G. Peacocke[21] described two cases of Hodgkin's disease in twin brothers at the age of 4. One died 18 months after the glandular enlargement first appeared, the other was still alive at the time of the report. Siemens[2] mentions an example of splenic leukæmia in twin sisters recorded by Senator. In hæmophilia it may be mentioned that in the well-known Yeadon family, recorded by Legg[22] there were twin brothers who were both bleeders. This, however, is hardly surprising in a family in which male bleeders have appeared for the last 200 years. The development of tumours, either innocent or malignant, in twins appears to be a rarer event than might be expected. Halliday Croom recorded the cases of two sisters who first menstruated on the same day and from 30 years of age suffered from menorrhagia until the menopause at 50. At 53 both suffered from adenocarcinoma with myoma of the uterus. Siemens refers to two twin sisters observed by V. Szontagh, who at the same time developed papilloma of the larynx with identical symptoms. Davis[23] has recorded an example of congenital hypertrophic pyloric stenosis in twin boys. The Rammstedt operation was done in both, and a year later they were awarded the first prize for twins at a baby show. He refers to another similar pair of twins reported by H. L. Moore in which the same operation was carried out at the age of four weeks, but both died.

Goitre has been observed simultaneously in both twins but does not appear to be common. Siemens[2] refers to uniovular goitrous cretins observed by Hanhart. Twin brothers[4] with goitres but no symptoms of myxœdema, and also twins of myxœdematous appearance were recorded by Petschacher.[24] With the exception of the cases of diabetes already referred to, I have seen no cases of any disease of an endocrine gland in both twins.

SUMMARY.

The evidence here considered shows that similar twins not only closely resemble each other in appearance and character but also in the finer details of structure and metabolism. This similarity renders them liable to suffer from those diseases which are due to some inborn error which sooner or later indicates its presence by definite symptoms of disease. Conversely, those diseases which are found to occur in both twins are most probably due to an inborn error rather than to external circumstances. It is therefore important to remember that where such a malady develops in one of similar twins it is not unlikely to develop in the other. The healthy twin under these circumstances should be watched and any possible steps taken to prevent the onset of the same malady, or at any rate to treat it in its earliest stage.

(*Continued at foot of opposite column.*)

# Milroy Lectures

ON

# EPIDEMIC DISEASES OF THE CENTRAL NERVOUS SYSTEM.

*Delivered before the Royal College of Physicians of London on March 5th, 10th, and 12th, 1925,*

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## LECTURE II.*—EPIDEMIOLOGY OF CEREBRO-SPINAL FEVER AND OF ACUTE POLIOMYELITIS.

### I.—THE EPIDEMIOLOGY OF CEREBRO-SPINAL FEVER.

*History.*

FOR a knowledge of the history of the epidemiology of cerebro-spinal meningitis up to the year 1886 all writers upon the subject are indebted to the authoritative and exhaustive article by Hirsch[1] in his "Handbook of Geographical and Historical Pathology." Hirsch groups the epidemic prevalence of the disease into four periods. The recent epidemics may be regarded as constituting a fifth period, according to Osler[2] and other authorities. In the first period, from 1805 to 1830, the disease occurred in isolated epidemics in various European localities and more generally in the United States. The second period was from 1837 to 1850 when the disease prevailed in widespread epidemics chiefly in military centres in France, Italy, Denmark, Algiers, and the United States. The third period lasted from 1854 to 1875. In this period the disease was widely prevalent throughout the greater part of Europe, in parts of Asia, in the United States, and in parts of Africa and South America. The fourth period, from 1876 to 1886, was denoted by a return to isolated epidemic outbreaks in various portions of the world, while the fifth period, beginning in 1896 and extending to the present day, has exhibited extensive and widely diffused major epidemics.

* Lecture I. appeared in THE LANCET last week. Lect. III. will appear in a subsequent issue.

(*Continued from previous column.*)

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*Cerebro-spinal Fever in Great Britain.*

Doubtful outbreaks occurred at Dartmoor in 1807 and at Sunderland in 1830, but the disease is not recognised generally as having appeared in Great Britain until Hirsch's third period.

In 1865 groups of cases were reported from several English districts, including London and Rochester; in 1866 a small outbreak of epidemic meningitis occurred at Bardney, near Lincoln. Infection may have been conveyed by reapers from Ireland. From 1887 to 1905 scattered outbreaks were noted from time to time. During this period a series of ten fatal cases came under the notice of Ormerod [3] at St. Bartholomew's Hospital, details of which he published in THE LANCET during March, 1895. From 1902 to 1911 outbreaks occurred in Sussex, Lincolnshire, Northamptonshire, and Cambridgeshire.[4]

In 1912 the notification of cerebro-spinal fever became compulsory in England and Wales. From the end of 1914 to 1918 cerebro-spinal meningitis was epidemic on an unprecedented scale in this country. The epidemic synchronised in onset with the importation of cases of cerebro-spinal fever by the Canadian troops, the first cases occurring on Salisbury Plain where these troops were encamped. According to the report of the Medical Research Council's special advisory committee, the Canadians did not import a new disease, but they did introduce a virulent strain of the meningococcus, and were in some degree responsible for its spread. Infection was widespread, but the greater number of cases of the disease were notified in the Eastern and South-Eastern parts of England, where the majority of the troops were stationed. The general distribution of troops, therefore, appears to have influenced the prevalence of cerebro-spinal fever.

During the war epidemic (1914–18) 6450 cases of cerebro-spinal fever were notified in England and Wales. According to Reece,[5] 4238 military cases of cerebro-spinal fever occurred in this country during the same period.

It will be seen from Table I. (Lecture I.) that the notifications of cerebro-spinal fever have declined without intermission since the year 1917, and the figures for 1923 are the lowest on record; with the passing of war and post-war conditions the incidence of this disease has now returned to normal. Scotland and Ireland suffered during the years of the war epidemic.

*Geographical Distribution and Incidence.*

Cerebro-spinal fever occurs in nearly all quarters of the inhabited world, being, perhaps, rather more prevalent in the temperate zone of the Northern Hemisphere.

The incidence of cerebro-spinal fever in any given population is necessarily dependent upon whether or not the estimation is made during a period of epidemic prevalence. The non-recognition of mild and abortive cases, classed otherwise as febriculæ or "influenza," influence also the estimation, as in the allied examples of poliomyelitis and encephalitis lethargica. As a rule, the disease in large cities does not attack much more than 1 to 2 per 10,000 of the population.[6] This is a much smaller morbidity-rate than that of measles, scarlet fever, diphtheria, and pneumonia in non-epidemic periods. The incidence of cerebro-spinal meningitis itself on the general population in non-epidemic periods is naturally extremely low. The attack-rate per 1000 of the population in England and Wales for the three years 1919, 1920, and 1921 was only 0·011.

*Incidence in Urban and Rural Communities.*

The stress of cerebro-spinal meningitis falls upon urban dwellers. In an epidemic year 1917, 347 cases occurred in London, 844 in urban, and 202 in rural districts. The increased incidence of the disease in urban communities seems not only to be due to the greater aggregation of persons in these communities with increased opportunities for acquiring infection, but is also associated with unhygienic conditions and overcrowding, infringements of sanitary laws which prevail chiefly in towns and cities.

*Mortality.*

The mortality of cerebro-spinal meningitis varies considerably not only in different epidemics but also according to the age of the patient attacked. Koplik's[7] statistics for children admitted to Mount Sinai Hospital show that the mortality in non-epidemic times is less severe than in epidemic periods, 38 per cent. in the former case as compared with 50 per cent. in the latter. In the two epidemic years, 1917 and 1918, the fatality-rates per 100 cases among the civil population in England and Wales, including London, were 65·4 and 67·6 respectively, but it is probable that many cases were not notified.

In Table I. (Lecture I.) the number of cases of cerebro-spinal fever notified in England and Wales from 1913 to 1923 are given, and the number of deaths from 1915 to 1923 in the civil population, but through the neglect to notify cases it is clearly valueless to calculate the fatality-rates with any degree of statistical satisfaction. It will be observed that in 1921 the number of deaths (414) exceeded the number of notified cases (411). The Glasgow ten-year rate of 72 per cent. may be regarded as a fairly average fatality-rate in an epidemic period. Higher and lower rates may occur. The epidemic in Sweden, which lasted from 1854 to 1861, is an example of a comparatively low fatality-rate; it was only 35·9 per cent.

In the early stages of an epidemic fulminating and fatal cases incline to prevail, while in the late stages mild and recoverable cases are more numerous. As Rolleston[8] has shown, experience in the Navy testifies to the beneficial influence of serum in diminishing the mortality of cerebro-spinal fever.

*Age, Sex, and Race.*

The *age* of the patient has an important influence upon the mortality of cerebro-spinal fever. The mortality is heaviest among children under 2 years of age (over 80 per cent.) and in adults over 40 years, in the one extreme when the resisting powers of the body are imperfectly developed, in the other when these powers are not in their maximum force and vigour. From 2 to 15 years the mortality-rate tends to diminish—with the exception of a slight fall between 20 and 30 years the mortality rises again, the increase being marked after 30 years and increasing to a maximum with each successive ten-year period. In posterior basic meningitis, the special type of cerebro-spinal meningitis in children, which is most often seen between the ages of 4 months and 2½ years, but may occur up to the age of 5 years, the mortality is over 75 per cent. (Lees and Barlow[9]). Alike in epidemic and non-epidemic periods, the greatest incidence of cerebro-spinal fever falls on children under 15 years of age.

Cerebro-spinal fever on the whole affects both *sexes* nearly equally. There is, perhaps, a greater tendency for males to be affected. In Texas in 1912, of 2575 cases, 1598 were males and 977 females. In the epidemic of the war years males were chiefly affected. In the civil population of England and Wales the percentage of males affected was 51·4 in 1917 and 53·4 in 1918. The addition of the military cases notified in these years would materially swell the incidence of the disease on males. The male death-rate is often slightly higher than the female death-rate. In 1917 male deaths constituted 53·2 per cent. and in 1918, 56 per cent. of the total deaths.

*Race* and nationality, with the possible exception of the Negro race, which has been visited with particular severity in certain of the American epidemics, appear to exercise no predisposing effect upon the incidence of cerebro-spinal fever. Sophian[10] has noted certain racial differences in epidemics, but it is probable that social status, overcrowding, and unhygienic surroundings are more responsible for them than any true racial incidence.

*Season and Meteorology.*

Epidemic cerebro-spinal meningitis is essentially a disease of the winter and spring months of the year. Approximately 80 per cent. of the epidemics occur in the winter and spring months. The majority of recorded epidemics have begun within one of the four months, December, January, February, and March, the maximum intensity of the epidemic being attained in April or May. From May the epidemic steadily declines and usually terminates by the end of July.

Similar features were seen in the epidemic in England and Wales in the years of the war. The period of maximum seasonal prevalence of the disease was in the early months of the year, and the greatest number of cases recorded in any one week in 1915 was in the first week in March, and in the years 1916 and 1917 in the fourth week in March. In the three years 1915–17 the rise and fall of the curve was steep although the fall was less abrupt, and in each year there was a preliminary rise in December. In 1918 the seasonal rise in the early months of the year reached its summit in the second week in February, and was less acute and the peak of the curve was less marked than in the previous years. Many cases occurred among the troops, and Reece[6] has pointed out that the conditions of training and hut occupation in the early months of the year favoured the dissemination of infection acquired through the naso-pharynx. Glover[11] has shown that overcrowding is a more potent factor than season in favouring the incidence and carrier-rate of cerebro-spinal fever.

Whilst it must remain true that unusually cold weather is often associated with epidemics and with their highest peak in the epidemic curve, the occasional anomalous association with warm climates and warm weather is probably best explained by sudden marked temperature changes to which a particular community is not accustomed, and which cause widespread naso-pharyngeal catarrh.

*Sanitary Conditions.*

Overcrowding, when it occurred in billets, hutments, and barracks during the Great War, undoubtedly favoured the spread of cerebro-spinal fever among the troops. It not only provides increased opportunities for contagion to spread from case to case, but it is invariably associated with lack of free ventilation which is another important predisposing factor. Multiple cases occur in households and are due to personal infection. Owing to the low vitality of the meningococcus outside the body it is unlikely that infection persists in dwelling-houses or in fomites.

*Occupation and Fatigue.*

The incidence of cerebro-spinal fever on troops has been repeatedly mentioned. The disease may be termed the camp-follower of war. That the chief cause of the enhanced incidence on troops is personal infection in populous urban centres is seen from the rarity of military epidemics in the field. The incidence of the disease in the Royal Navy during the war furnishes a parallel example. Rolleston[12] records that out of the 417 cases of cerebro-spinal fever in the Navy during the first three years of the war, 310, or 75 per cent., arose in the large depôts at Portsmouth (110), Plymouth (94), the Crystal Palace (59), and Chatham (49), while only 42 cases, or 10 per cent., were reported from sea-going ships. Jehle[13] recorded outbreaks of cerebro-spinal fever in Silesia and Westphalia with a high incidence upon coal-miners and their families. Physicians and nurses sometimes contract cerebro-spinal fever in the course of their attendance on the sick, but the number attacked is not high.

By most authorities previous *fatigue* is recognised as a condition predisposing to cerebro-spinal fever. In a series of military cases (1914 to 1918) recorded by Worster-Drought and Kennedy,[14] over 84 per cent. of the cases were in men of under one year's army service, that is among young recruits who were unaccustomed to the strain of their new duties. Clinically, in epidemic periods it has often been recognised that undue mental or physical fatigue in individual cases predisposes to an attack of cerebro-spinal fever.

*Previous Health.*

With the exception of catarrhal conditions the previous state of health appears to exercise no predisposing effect on cerebro-spinal fever. The epidemicity among troops, usually men of superior physique, indicates that the healthiest persons may suffer from the disease in a severe form. The question of catarrhal conditions in cerebro-spinal fever calls for special consideration. Dopter[15] recognised three stages in cerebro-spinal meningitis: (1) catarrhal, (2) septicæmic, and (3) meningeal, but this has not been borne out by the experience of Flack[16] and Foster and Gaskell.[17] The reports of the Medical Research Council indicate that in the opinion of the majority of the bacteriologists there is no causal relationship between catarrh and carriers of the meningococcus. Many cases of cerebro-spinal meningitis are unassociated with catarrh. It is now a usually accepted view that catarrhal affections of the respiratory tract, if preceding cerebro-spinal meningitis, are not due to the meningococcus, but favour the onset of the disease in epidemic periods.

*Incubation Period.*

In one's own experience in both military and civilian outbreaks in 1915–16, the usual incubation period appeared to be from three to four days. I have notes of two fulminating cases of cerebro-spinal fever in which the incubation period, so far as one was able to judge, appeared to be as short as 24 hours, a period which coincides with Sophian's minimum incubation period. Worster-Drought and Kennedy,[14] reviewing the available evidence on the incubation period of cerebro-spinal fever, conclude that this period varies between 24 hours and seven days, its average duration being four days, and most authorities would agree with this opinion. With carriers who subsequently develop the disease the incubation period must of necessity be extremely variable. Flack[16] adduces evidence to show that carriers may develop the disease at almost any time up to six or seven weeks after infection with the meningococcus.

## II. EPIDEMIOLOGY OF ACUTE POLIOMYELITIS.

*History.*

The first authentic description of poliomyelitis was given by Michael Underwood[18] in a treatise on the "Diseases of Children," published in 1784. Underwood was a Licentiate in Midwifery of the College; he was a skilful accoucheur and attended the Princess of Wales in 1796, when the Princess Charlotte was born. He associated the disease with teething and termed it "debility of the lower extremities." In 1822 Shaw[19] reported a few cases in a book entitled "Nature and Treatment of the Distortion to which the Bones of the Spine and Chest are Subject." He related the disease to weaning in infants. Dr. John Badham,[20] of Worksop, Notts, in 1835, described four cases of poliomyelitis in the *London Medical Gazette*. The title of his paper was Paralysis in Childhood: Four Remarkable Cases of Suddenly Induced Paralysis of the Extremities Occurring in Children without any Apparent Cerebral or Cerebro-spinal Lesion. Badham for the first time drew attention to the cerebral symptoms presented by patients.

Jacob Heine[21] (1799 to 1878) wrote a very instructive monograph on poliomyelitis in 1840, and is regarded generally as the pioneer contributor to modern knowledge of the disease. Heine was the first to recognise poliomyelitis as a disease of the spinal cord. Further clinical cases were reported by British and French physicians from 1841 to 1863, but no study of the pathology was made until the last-named year, when von Reinecker and von Recklinghausen,[22] in Germany, and Cornil,[23] in France, described the lesions in the anterior cornua and

lateral columns of the cord. Afterwards there was considerable controversy over the nature of the changes in the medical press of the day, Charcot maintaining the disease to be a primary atrophy of the spinal cord, whilst others held opposing views. Rissler [24] first investigated the histology of the acute forms, and his work has been followed up and completed by the studies of Harbitz and Scheel [25] (1907), Wickman [26] (1905 and 1910), Strauss [27] (1910), and Peabody, Draper and Dochez [28] (1912). The first adult case of poliomyelitis appears to have been described by Vogt [29] in 1859. This brings us to the period when the work of Medin and Wickman conclusively demonstrated the true character of poliomyelitis as an acute infectious disease. This modern work was considered in the first lecture and its record completes the historical account of the disease.

### *Poliomyelitis in Great Britain.*

The following is a summary of the chief epidemics of poliomyelitis recorded in England and Wales:—

1897. Outbreak in Hertfordshire (W. Pasteur).
1904. Cases in London (F. E. Batten).
1908. Outbreak at Upminster (W. W. Treves).
1909. Outbreak at Bristol (G. Parker).
Cases in London (L. G. Parsons).
1910. Outbreaks in Cumberland (Carlisle), Northumberland, Nottinghamshire, Leicestershire, Dorset, Gloucester, and York.
1911. Epidemics in Devon and Cornwall (R. J. Reece), Plymouth, Huntingdon, Bedfordshire, Suffolk, Yorkshire, Westmorland, Derbyshire, and Wales.
1913. Outbreaks in Barrow-in-Furness, N.W. Lancashire, and Westmorland (Macewen).
1917. Outbreaks in Esher and the Dittons Urban District and Epsom Rural District (MacNalty), Cambridge, and Cambridgeshire (Macewen).
1921–1923. Further increase in notifications of poliomyelitis. Many local outbreaks are still unnoticed until the appearance of crippling after-effects.

Poliomyelitis prevails in Scotland, and outbreaks have been reported and studied by Byrom Bramwell,[30] Edwin Bramwell,[31] H. Bruce-Low,[32] and others. Since 1913 small outbreaks have been recorded in Ireland.

### *Geographical Distribution.*

The most extensive epidemics of poliomyelitis which have hitherto been recorded have occurred in Scandinavia and in the United States. The classical survey of epidemic poliomyelitis throughout the world was made by Bruce-Low,[33] and for details of the epidemics in various countries reference should be made to his illuminating report in the annual report of the Medical Officer of the Local Government Board for 1915–16.

### *Incidence and Frequency.*

It is difficult to form even an approximate estimate of the incidence of acute poliomyelitis upon the general population. Although notification of the disease has been in force since 1912 in England and Wales a considerable number of cases of the disease are never notified. In support of this statement, already made several times, the following instances occur to mind: In 1911, 268 cases of poliomyelitis were officially notified in England and Wales; but in addition to these notifications there were reported at least 330 more cases, making a total for that year of 598 cases that came in one way or another under observation.

In certain towns poliomyelitis is endemic yet the disease attracts little attention. In the county borough of Sunderland, which had, in 1911, a population of 165,295, paralysed children are brought year after year to the Sick Children's Hospital, where the true nature of the disease is recognised. In 1912 the hospital books showed that eight cases of poliomyelitis were treated; ten in 1913, nine in 1914, and 12 in 1915. The medical officer of health for the borough only received six notifications of poliomyelitis between September, 1912, and March, 1916. This non-recognition of poliomyelitis in the acute stage occurs in other countries. The New York epidemic of 1907 was practically not noticed until the acute stage was over, when the large number of cases applying to the dispensaries and to the neurologists for treatment led to full investigation by the New York Department of Health.

Table II. gives the proportion per million of the population of poliomyelitis for the years 1916, 1917, and 1918 as worked out for the notified cases of the disease in those years.

TABLE II.—*Incidence on Population of Poliomyelitis.*

| — | Proportion per 1,000,000 population. | | |
|---|---|---|---|
| | London. | Urban districts. | Rural districts. |
| 1916 .. .. | 45·5 | 17·6 | 12·6 |
| 1917 .. .. | 12·6 | 9·8 | 11·6 |
| 1918 .. .. | 12·9 | 6·1 | 5·8 |

These figures are subject to the qualifications previously discussed and the same reservation must apply to the American figures. The incidence must be controlled by many factors, of which probably the most important are the intensity of the outbreak, the virulence of the causal virus, and the susceptibility of the population. In an "unsalted" community—that is, one previously unattacked by poliomyelitis—there will naturally be a much higher incidence than occurs in a community where previous attacks have eliminated susceptibles or protected the juvenile members of the population from subsequent attack.

### *Incidence in Urban and Rural Communities.*

It is possibly of significant interest that in 1910 and 1911, when epidemic poliomyelitis was ascertained to be largely prevalent in England and Wales, the cases observed chiefly occurred in rural areas and in small urban districts. More recent figures show an increased incidence in urban communities in England and Wales.

### *Mortality.*

The case-fatality of poliomyelitis varies in different epidemics. An average variation is from about 10 to 25 per cent. The variable case-mortality is chiefly dependent upon whether the mild and abortive cases of the disease are recognised or escape detection in the different epidemics. The case-fatality rates are probably lower than those usually given on account of the failure to detect mild cases. In the Surrey outbreak of 1917, in which many mild and abortive cases were detected, I found the case-fatality to be 7·1 per cent., which is within the limits assigned by Holt and other observers. Nevertheless, instances are on record where there was an unusually high mortality. Wickman, for example, in a small epidemic of 26 cases, recorded a mortality of 42·3 per cent.

### *Age.*

Table III. showing for England and Wales during the year 1918 for certain age-periods the age distribution of 228 cases of poliomyelitis, the number of deaths, and the mortality per cent., indicates that for persons over 10 years of age the mortality from the disease is higher. In this table, however, the highest case-mortality is seen in persons under 1 year of age, and it is highly probable that many mild and abortive cases for the age-periods under 10 years were unnotified. The cases at the higher ages are more likely to have been notified as they are more readily diagnosed.

TABLE III.—*Showing for England and Wales During the Year 1918 for Certain Age-periods the Age Distribution of 228 Cases of Poliomyelitis, the Number of Deaths, and the Mortality Per Cent.*

| Age in years | Cases | Deaths | Mortality per cent. | Age in years | Cases | Deaths | Mortality per cent. |
|---|---|---|---|---|---|---|---|
| 0–1 | 23 | 9 | 39·1 | 15–20 | 14 | 4 | 28·5 |
| 1–5 | 100 | 24 | 24·0 | 20–30 | 7 | 1 | 14·2 |
| 5–10 | 49 | 11 | 22·4 | Over 30 | 8 | 3 | 37·5 |
| 10–15 | 27 | 10 | 37·0 | | | | |

Generally, as Table III. indicates, the largest proportion of cases occurs between the first and fifth year of life. In the New York epidemic of 1907 as high a percentage as 90·5 per cent. of the cases occurred during the first six years of life. It is not altogether certain whether the disease occurs in utero. Morton,[34] Batten,[35] and others have reported cases which they considered examples of intra-uterine infection. The disease not infrequently occurs within the first years of life, 23 of the 228 cases notified in England and Wales in 1918 fell within this age-period. Duchenne [36] reported a case 12 days after birth, Bramwell [37] one of 3 weeks of age, and Sinkler [38] two cases under 1 month of age. Ruhräh and Mayer [39] state that adults are affected generally to the extent of about 10 per cent. of the various epidemics, but in this there are great variations, at times the percentage being higher and sometimes much lower. The second year of life appears to be most constantly affected by poliomyelitis.

*Sex and Race.*

Of 228 cases of poliomyelitis notified in England and Wales in 1918, 118 were males and 110 females. As a rule there is not much sex difference in the incidence of poliomyelitis; the figures of almost all epidemics agree in showing a slightly greater proportion of males than females attacked. In the New York epidemic of 1916 boys were 55·8 per cent. and girls 43·7 per cent. of the total.[40] Caverly [41] reports males 57 to 60 per cent. and females 43 to 40 per cent. The proportion of males attacked seems to be higher in later life. Ruhräh and Mayer [39] observe that the disease is more liable to be severe in boys and the mortality-rate somewhat higher.

The factor of *race* does not appear to play an important part in the problem of susceptibility to poliomyelitis.

*First and Second Attacks.*

As a rule one attack of poliomyelitis produces permanent immunity. A few anomalous examples have been recorded by Medin, Leegaard, Auerbach, Neurot, Forster, Schwartz, and others in which there was recovery from an acute attack of poliomyelitis, and after an interval of several weeks or months the disease recurred with increased paralysis. Possibly this condition may be due to a re-activation of the original virus rather than to a subsequent re-infection. There are exceptional and rare cases in which a definite second attack of poliomyelitis has occurred in the same individual. Two cases of the kind occurred in the New York epidemic of 1916. Eshner [42] has reported the case of a girl in which 11 years elapsed between the two attacks. Sanz [43] records a similar case with 14 years' interval.

*Seasonal Prevalence and Meteorology.*

There is a well-marked seasonal prevalence for poliomyelitis. It is noteworthy that the disease occurs more commonly in temperate than in warm climes, yet in the northern hemisphere it is most prevalent in the warm months of the year—namely, July, August, and September—though it may linger on during other parts of the year. In America Sinkler [38] studied 270 cases and found that 78·8 per cent. occurred from May to September, the dry months of the year. Poliomyelitis may indeed occur in any month of the year either in sporadic or in epidemic form, but the majority of the cases as indicated arise in the late summer and early autumn. The fewest cases occur in the winter and early spring. Epidemics in the cold months of the year are not unknown.[44]

*Transmission of the Disease and Consideration of Possible Predisposing Causes.*

Evidence previously considered has indicated that the main factor in the spread of poliomyelitis is personal contagion. Here may be mentioned other views as to transmission of the disease and certain predisposing causes.

*Transmission by Insects.*—There is experimental evidence that the virus of poliomyelitis may be transmitted from infected monkeys by biting insects (bed-bugs and the stable-fly, *Stomoxys calcitrans*), and that it may be mechanically carried upon and in the bodies of common house-flies. These experiments would not necessarily establish that this is a natural method of transmission. The seasonal prevalence of poliomyelitis corresponding to the season and maximum prevalence of numerous insects, the early appearance of poliomyelitis in rural areas, and the irregular spread of epidemics are epidemiological features which have suggested the agency of some insect in conveying the disease. In epidemics personally studied, many of the patients were found to have been bitten by flies and other insects. I have notes of a case with a bad fly-bite on the eyelid a week previous to the onset of poliomyelitis; a similar history of a mosquito-bite was obtained in another case. Many patients, on the other hand, gave no histories of being bitten by insects in epidemic zones. Returns made to the Central Health Authority for the year 1918 show that insect-bites were seen on 2·2 per cent., and not seen on 52·6 per cent. of the patients. There was no available information in regard to 45·2 per cent. of the cases.

Regarding the seasonal prevalence of poliomyelitis, as Frost [45] has observed, it is not so definitely limited to the warmer months as would be anticipated if the disease is transmitted by outdoor insects, such as mosquitoes or biting flies. It differs, for example, from the well-defined seasonal prevalence of yellow fever. The usual restriction of the seasonal prevalence of poliomyelitis to summer and autumn militates against the likelihood of transmission by the parasitic insects of man, bed-bugs, lice, and fleas. The facts chiefly opposed to this view are, first, the evidence relating to personal contagion; secondly, the small total incidence of poliomyelitis; and thirdly, the preponderating incidence of the disease on children. Insect-borne diseases do not usually affect children rather than adults. The favouring influence of warm temperatures may be exercised upon the virus of poliomyelitis itself when infecting human beings rather than upon an hypothetical intermediate host.

*Other Possible Modes of Transmission.*—There is no substantial evidence as to the conveyance of poliomyelitis by foodstuffs, dust, or sewage, and the English and American statistics indicate that the disease cannot be specially associated with uncleanliness of the patient or of the patient's surroundings.

*Incubation Period.*

The duration of the incubation period is said to be variable. In the experimentally produced disease in monkeys, Flexner [46] found that the time elapsing between inoculation and the onset of paralysis is from three or four days to 33 days, the average being eight or nine days. A virus passed through several generations of monkeys becomes adapted to its new host, and has a more constant period of incubation than when it is first transferred to the monkey from man. This fixed virus regularly causes paralysis in from seven to eight days. In man the incubation period appears to be short and to range within the limits of two to ten days. Wickman considered the period as from one to four days, basing his opinion on the interval between the dates of onset of the disease in two members of the same family. The observations of Draper, Peabody, and Dochez [28] on cases of familial infection would lead to a similar conclusion if they had not felt that it was impossible to exclude simultaneous infections of two members of the same family from a common source. Indeed, neglect of this factor is a trap for the unwary in the study of epidemics of nervous disease. Further statements on good evidence concerning the incubation period have been made as follows: Muller,[47] between five and ten days—average one week; Flexner,[46] two days to two weeks or even longer; Kling and Levaditi,[48] two to three days; Currie

and Bramwell,[21] four days or less. My personal observations, based on case to case infection in epidemic periods, would place the incubation period at from two to ten days, the average period being three to four days.

### POLIO-ENCEPHALITIS.

The record of the epidemiology of poliomyelitis would be incomplete without some reference to the cerebral form of the disease termed polio-encephalitis. In this type the lesion chiefly or solely involves the upper motor neuron giving rise to spastic paralysis. Vizioli,[49] in 1880, noted the close relationship of certain cerebral palsies in children to the spinal form of poliomyelitis, but polio-encephalitis was first described and named by Strümpell [50] in a lecture at Leipzig in 1884. He also first affirmed that poliomyelitis and polio-encephalitis are only to be regarded as different localised manifestations of a specific disease. The cases initially described were 24 in number, all under 6, and 19 under 4 years of age. The majority of cases indeed occur in children, but adults may be affected. In Medin's original paper† 11 out of 14 cases were described with cerebral signs. This was exceptional. Wickman,[26] in the Swedish epidemic in 1905, did not see a single instance. No case was reported in the New York epidemic of 1907, in which 1000 cases were observed. Peabody, Draper, and Dochez [28] met with no cerebral cases in their study, and few cases were found in the New York epidemic of 1916. Zappert,[51] in 555 cases, described five cerebral cases. Two cases were observed in the Norwegian epidemic of 1905 in Christiania.

There has been series of instances in which there was a combination of the flaccid and spastic paralysis. Such cases have been reported by Wickman, Pierre Marie, Oppenheim, Neurath, and others. Ruhräh and Mayer [39] quote Möbius, who has described a brother and a sister taken ill at almost the same time with a febrile affection. In one there was a spastic hemiplegia with choreiform movements; in the other, flaccid paralysis.

In the small outbreak of poliomyelitis in Esher and the Dittons Urban District and Epsom Rural District in 1917, two cases of the cerebral form, both in children, were observed. One was a case of facial paralysis (pontine type), the other an ophthalmoplegia. Both cases occurred in intimate association with ordinary cases of infantile paralysis. The rare cerebral cases are sometimes somnolent, and cases of epidemic stupor in children, similar to those described in the first outbreak of encephalitis lethargica by Batten and Still,[52] were recorded by Peabody, Draper, and Dochez [28] in the New York epidemic of poliomyelitis. Speech changes‡ (notably in Medin's ataxic cases), nystagmus, tremors, choreiform movements, rashes, and other symptoms similar to those seen in encephalitis lethargica have also been described in polio-encephalitis.

It is only in a few cases that the lesions of polio-encephalitis have been described, although it is not uncommon to find scattered lesions in the brain in cases of ordinary spinal poliomyelitis. Harbitz and Scheel [25] made a microscopical examination of the brains from two cases of polio-encephalitis occurring in the Norwegian epidemic of 1905 and found the lesions present identical with those of acute poliomyelitis.

When encephalitis lethargica first appeared in 1918 the suggestion was made that the cases of "the new disease" were only examples of the cerebral form of poliomyelitis, but our investigations soon indicated that the differences were more real than the apparent resemblances. Polio-encephalitis is a rare disease; it may be apparently sporadic, but it also occurs in direct association with other forms of poliomyelitis in epidemic periods, and Strümpell's early contention as to the identity of the two forms has been amply substantiated. I have notes of several isolated cases of polio-encephalitis which have occurred in places where endemic foci of poliomyelitis exist.

Since Jan. 1st, 1919, cases of polio-encephalitis in England and Wales have been separately notified from cases of spinal poliomyelitis. Table IV. shows the number of cases notified in the period 1919 to 1923, with the number of deaths in the years 1921, 1922, and 1923.

TABLE IV.—*Polio-encephalitis in England and Wales. Numbers of Notified Cases and Deaths.*

| Year. | Cases. | Deaths. | Year. | Cases. | Deaths. |
|---|---|---|---|---|---|
| 1919 .. | 62 | — | 1922 .. | 31 | 27 |
| 1920 .. | 36 | — | 1923 .. | 57 | 40 |
| 1921 .. | 51 | 40 | | | |

It will be seen from Table IV. that the mortality from this form of poliomyelitis is a high one. From the evidence available the incidence of polio-encephalitis would appear to be higher in England and Wales than in America. I should imagine there are few neurologists in this country who have not encountered examples of the disease.

† Trans. Internat. Congress of Medicine, Berlin, 1890.

‡ In my opinion, however, the speech changes described by Medin and others are not identical with the highly specialised and characteristic speech changes seen in encephalitis lethargica.

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# THE SURGICAL TREATMENT OF DUODENAL ULCER.

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THE more closely the investigation of the treatment of duodenal ulcer is carried out, the less grows the inclination to be dogmatic in the matter, or, indeed, to lay down any inviolable rules of practice. An unbiased study of the writings of the accredited leaders and directors of thought in medicine and surgery leads to a most perplexing attitude towards the subject, so that the investigator is inevitably thrown back upon his own resources of experience to guide him in the treatment of cases which come under his care.

The extremes of opinion, that duodenal ulcer should almost never require surgical aid, and that once a duodenal ulcer can be diagnosed beyond reasonable doubt, the treatment should *always* be surgical, do not come into question, for it is easy to refute both these statements. At St. Mary's Hospital the two extreme schools of thought do not exist. Many duodenal ulcers are treated medically, get well, and remain so. Thus, of 91 patients diagnosed as duodenal ulcer admitted to the hospital during the years 1920–23, excluding, of course, cases of perforation, only 45 came to operation. It may be argued that it is an unwarranted assumption to regard all these diagnoses as correctly made when no operation has been performed, but experience on the surgical side of this hospital amongst patients handed over from the physicians has shown that the diagnostic error is not so high as to invalidate the general truth of the statement that many duodenal ulcers get well in the medical wards under treatment which includes a dietetic régime, the exhibition of alkalies or of atropine, and always rest in bed.

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*Indications for Surgical Intervention.*

In the Surgical Clinical Unit opinion has crystallised as far as this, that operative intervention is not undertaken as a rule unless the disease has lasted for a considerable time, has proved refractory to medical measures, or has endangered life by causing a hæmorrhage, although the symptoms may be of very recent origin. As a matter of fact, the ordinary man, the bread-winner of a family, does not submit to operative treatment, with its associated considerable interference with his work, until he has failed to get relief from medicine after one or more fair trials, and finds life becoming too burdensome and intolerable for him to carry on. The following case is a warning against resorting to surgery at too early a stage in the disease.

CASE 1.—The patient, a male, suffered from symptoms which suggested the existence of an ulcer of the stomach or duodenum, and was operated upon at a large London Hospital by a well-known surgeon in 1915. A careful search was made, but no lesion of the stomach or duodenum could be found. The surgeon had no choice but to close the abdomen, leaving its contents untouched. No relief followed, and the patient struggled on with recurrent attacks of increasing severity until forced again into the hands of the surgeon in 1923, when he entered the St. Mary's Surgical Clinical Unit. A skiagram now demonstrated a deformation of the duodenal shadow and a persistent fleck after evacuation. On opening the abdomen a large ulcer on the posterior wall of the second part of the duodenum, penetrating into the pancreas, was revealed, with much surrounding fibrosis. The affected part of the duodenum with the pylorus was excised and, as the stump was rather short, owing to the amount removed, it was sewn up, and the open end of the stomach implanted into the jejunum. The patient has not had a moment's pain since.

A similar case is reported by E. Nordman,[1] where a neurotic girl was explored most carefully without result, whilst one year later a callous ulcer was found in the duodenum.

The following case shows how large an acute gastric ulcer may be without giving any evidence of its presence on the outer aspect of the stomach.

CASE 2.—The patient, a man aged 66, was admitted to St. Mary's Hospital in 1922, having had two severe hæmatemeses, accompanied by melæna. He was given two blood transfusions and operated upon by one of the surgeons, a rapid gastro-jejunostomy being performed. No ulcer could be detected on a careful examination of the stomach, but suspicion fell upon the duodenum. The patient, an ex-sanguinated elderly man, died within 24 hours. Post mortem there was found a large acute ulcer of the lesser curvature of the size of half-a-crown, with sharply punched-out edges and no reaction in the outer coat of the stomach at all, although it had nearly perforated. It could not be felt before opening the stomach, even on the post-mortem table.

An ulcer that is confined to the mucosa alone may give no evidence at all of its existence on the peritoneal surface of the viscus, nor may it give rise to palpable induration. Such ulcers may heal or they may be in process of evolution towards the callous state. Operation at this stage is premature and perhaps unnecessary. It must be remarked here that the detection of an ulcer on the posterior wall of the duodenum is by no means always simple. Palpation must be carried out through the anterior wall of the viscus, and the posterior wall, where the ulcer lies, cannot always be exposed to inspection. No examination is complete unless the lesser omental sac is penetrated and a search made from within it. On several occasions when resecting the duodenum, a second ulcer has been revealed first, only when the stomach has been cut across and the duodenum turned over to the right.

*Results of Gastro-Jejunostomy.*

The consideration of surgical treatment in duodenal ulcer starts then from the assumption that the patient has received adequate medical advice and acted upon it without avail, or that his life has been put in jeopardy by a hæmorrhage, without perhaps

having had any pain at all. The real difficulty is met when the efficacy of gastro-jejunostomy in the treatment of duodenal ulcer comes under inquiry, for strikingly diverse opinions are expressed.

A number of years have passed since the pioneer work of Moynihan established gastro-jejunostomy as the routine operation, so reliable knowledge on the subject should be at our disposal. Moynihan himself finds that over 90 per cent. of his operated cases (gastro-enterostomy with infolding of the ulcer) consider themselves perfectly well, and that the incidence of jejunal ulcer formation is not more than 2 per cent.[2] J. Sherren, in 500 cases, found 92·6 per cent. well two or more years after operation, and declares that if patients go for two years without symptoms, they never develop them afterwards.[3] A. J. Walton,[4] in 114 cases, had 85·8 per cent. cures and 10·5 per cent. very much relieved. Turning now to America, we find equally good results recorded. D. C. Balfour[5] investigated the end-results in 1000 patients, all of whom had been operated upon for more than 10 years; 88 per cent. remained cured and only 3·5 per cent. of recurrences are known to have happened. The operative mortality was less than 2 per cent.

These results wellnigh reach such perfection as we can ever hope to get in any serious surgical procedure, and were it not for expressions of discontent with the operation of gastro-jejunostomy from continental surgeons, we could complacently continue to carry out treatment along these lines until the advance of medicine put such knowledge into our hands as would lead to the elimination of surgery for these patients.

H. V. Haberer in 1915[6] expressed himself as being by no means satisfied with simple gastro-jejunostomy. He related three cases where at intervals of 2½, 4½, and 9 years after operation callous duodenal ulcers were found unhealed on re-laparotomy. The same author again, in 1921,[7] said that in 49 cases he had had very poor results from simple gastro-jejunostomy. Maier[8] relates a case where on reopening the abdomen two years after the primary operation the two original duodenal ulcers were found unhealed, and there was a new one at the anastomotic margin. K. Borszeki,[9] of Budapest, relates two cases who got relief for only 2 and 14 months, when pain and bleeding occurred in both, necessitating a new intervention. E. Nordman[10] says the good results after simple gastro-jejunostomy are 70 per cent. J. Galpern[11] gives the end-results in 52 cases; 69·2 per cent. cured, 11·5 per cent. much improved. The bad results were 19·3 per cent. A. Wydler[12] asserts that the longer one follows up cases after operation, the smaller the percentage of cures will be, and P. Clairmont agrees with him in this.[13] As has been mentioned, the experience of Sherren is quite different. Wydler's results from de Quervain's clinic are 69·6 per cent. cures in cases followed for 1–4 years, and 64·3 per cent. in those followed for 4–10 years. A most interesting report is made by D. Forsyth.[14] His statistics are taken from a sickness insurance society whose members are all medical men. Of 33 cases, where the diagnosis was established by operation, no recurrence (1–12 years) took place in 58 per cent.

The reports quoted above emanate from clinics where, without exception, the level of surgical attainment is very high. It is certain, therefore, that there must be some obscure difference in the manner of evaluation of the results, which are obviously not strictly comparable. Under such circumstances it becomes necessary for each surgeon to inquire what results he can obtain under the conditions which are familiar to him in person. For this reason 29 patients who had had simple gastro-jejunostomy performed for duodenal ulcer during the years 1920–23 at St. Mary's Hospital were written to, and of these 26 replied. Eighteen of them (69·2 per cent.) are well, live ordinary lives, and eat ordinary food. A number of them wrote enthusiastically in favour of operative treatment. There is no doubt that they derived immense benefit. Eight of them (30·8 per cent.) expressed themselves as dissatisfied with the result. One of them has died. He was a man of 44, who had had late pain after meals (1–2 hours) and vomiting with free intervals for five years. There had once been a hæmatemesis. At the operation there was an ulcer adherent to the gall-bladder. He only obtained very temporary relief from the gastro-jejunostomy, the pain recurring, though the vomiting was less. He went on like this for three years, when he had a hæmatemesis and melæna, from the effects of which he died. The others all have indigestion pains, and one of them has had a bleeding.

CASE 3.—The patient, a man aged 28, had no pain at all after meals, but suddenly, ten weeks before admission, fainted from a severe duodenal hæmorrhage. He was still very anæmic on admission. An X ray examination showed a hypertonic stomach, an 8-hour residue and an attenuated duodenal cap. At the operation on June 11th, 1923, there was found to be an ulcer of the first part of the duodenum anterior wall, ½ in. beyond the pylorus. Duodenectomy contra-indicated because of weak condition of patient. Posterior gastro-jejunostomy performed. His progress was satisfactory until Nov. 20th, 1924, when, without any previous pain, he had another severe hæmorrhage. He is still suffering from the resultant anæmia and is under medical treatment.

This series is a small one, but the cases were carefully recorded and in every instance the disturbing factor of indifferent technique can be definitely eliminated. The percentage of success agrees exactly with that recorded by Wydler in de Quervain's Clinic. A careful scrutiny of the clinical records does not give any assistance in selecting those cases which will and those which will not be cured by gastro-jejunostomy. It cannot be said, for example, that when an ulcer on the posterior wall is adherent to the pancreas it will refuse to heal by gastro-jejunostomy.

CASE 4.—A man, aged 26, had had four years' pain, occurring 1½ hours after food and vomiting. He only got relief for about two weeks at a time. The skiagram showed an asymmetrical pyloric canal, and an ulcer niche on the median side of the duodenal cap. At the operation there was an ulcer on the upper border of the bend of the duodenum, spreading backwards to the pylorus. Another larger ulcer, with a distinctly palpable crater, could be felt on the pancreatic wall of the second part of the duodenum. I considered duodenectomy to offer too much risk, because of the extent of the lesion and its surrounding fibrosis. A simple gastro-jejunostomy was performed. Now, 15 months later, he is quite well, has no pain, and can eat ordinary food.

On the other hand, it is probably true that the immobilised ulcers in this situation heal with greater difficulty than those on the anterior wall of the first part of the viscus.

*Duodenectomy.*

The experience recorded above is ample justification for a search for some other method of dealing with intractable duodenal ulcers surgically. Because gastrectomy had been shown to give such very much better results than gastro-jejunostomy in ulcers of the stomach, continental surgeons naturally turned their attention to the eradication of duodenal ulcers by excising the affected segment of the duodenum. This question was mooted at the 1914 German Surgical Congress in Berlin, but the general consensus of opinion was that the operation was too hazardous and impracticable. So the matter stood until 1916, when, curiously enough, in the midst of the stress of war, several surgeons attacked the problem and proved that duodenectomy above the entrance of the common bile and pancreatic ducts could, with care, be carried out, without too considerable risk to the patient. Finsterer, Haberer, and Clairmont were particularly associated with this work, and have published large series of cases.

Recently I[15] have described the technique and recorded my first nine cases. The operation is a tedious one, is exacting of the time and patience of the operator, and has dangers of its own. The

first difficulty is the control of hæmorrhage. The duodenum is supplied by the pancreatico-duodenal artery, whose trunk cannot be ligated, as the pancreatic circulation would be interfered with. It is therefore necessary to tie separately each short branch as it comes off the trunk and straightway enters the duodenal wall. This must be done exactly or the operative field will become obscured by blood. The next great difficulty is the very widespread fibrosis which occurs in the neighbourhood of a duodenal ulcer. It changes the lesser omentum into a thick callous mass, it glues the duodenal wall immovably to the similarly indurated pancreas, it renders the discovery of the whereabouts of the common bile-duct sometimes impossible. Withal it causes the duodenum to be shrunken up on itself and an approximation of the papilla of Vater to the pylorus to take place. On first inspection the operation frequently appears to be impracticable. The essential decision to make is whether normal duodenal wall can be reached at a point which is above the ampulla of Vater. E. Nowak declares that he has never seen a duodenal ulcer spread so far down as the opening of the ducts, and he was able in every one of 41 successive cases to excise the duodenum. But although it is exceptional, ulceration may sometimes extend as far down, and such unusual cases should be borne in mind. An injury to the pancreas may lead to fat-necrosis and subphrenic abscess. A great danger is injury to the common bile or pancreatic ducts. This question was studied by P. Clairmont.[16] He collected cases where the accident happened. The result is often fatal, and recovery when it takes place occurs usually after a stormy convalescence and further surgical intervention. I have recorded one case where the accident occurred, but the patient recovered with very little disturbance. Seven months later this patient was in excellent health. The common bile and pancreatic ducts are drawn close to the duodenal wall by the surrounding cicatricial tissue. They can be avoided only by keeping the dissection close to the duodenal wall, and, where the ulcer floor is formed by the pancreas, incising around the margin of the ulcer, leaving the base untouched, in exactly the same way as a gastric ulcer often is separated from the same viscus. In completing the operation the stomach is cut across about 2 inches from the pylorus and the duodenum just beyond the ulcer-bearing area. A direct axial anastomosis is then made between stomach and duodenum, the larger lumen of the stomach being partly sutured to reduce its size to that of the duodenum. Sometimes it has seemed more advisable to close the duodenum and implant the cut end of the stomach laterally into the jejunum.

I have now performed duodenectomy 18 times, and have been able to do an axial anastomosis in 16 of them. The junction may be troublesome to effect, and in three cases so little duodenal stump was available that a simple continuous Connell suture alone was used on the posterior aspect.

*The Results of Duodenectomy.*

I have, perhaps, emphasised unduly the drawbacks and difficulties of following the direct method of attack in duodenal ulcer, but this is rather to be desired if it is proposed to substitute, as a routine, a procedure which is attended by greater danger than gastro-jejunostomy. Such advance in the treatment of the disease, if such it is, should be made with all caution. Obviously the matter must be settled, and it is held to be a function of the professorial units to undertake such work. With this object during 1923 and 1924, duodenectomy has been performed whenever it seemed a safe and proper procedure.

Thus, of 29 duodenal ulcers treated during this time, gastro-jejunostomy was performed in 11 and excision of the duodenum in 18. Gastro-jejunostomy was selected for two reasons: either because the lesion in the duodenum was not considered extensive or serious enough to justify duodenectomy, or, on the other hand, the surrounding fibrosis was so great that doubt was felt of the possibility of obtaining unaltered duodenal wall for suture without encroaching upon the region of the papilla of Vater. That not simply the easy cases have been chosen for excision may be gathered from the fact that in the 11 cases in which gastro-jejunostomy was performed there was a posterior ulcer present in 4, whilst amongst the 18 duodenectomies there was a posterior ulcer present in 17, and in 12 of these 2 ulcers were found. Of the immediate results, it can be said that the post-operative course has been uniformly smooth as far as the abdominal condition is concerned.

There has been rather a high incidence in pulmonary conditions. Coughs have been somewhat frequent and very disturbing to the patient. This may be related with the length of the operation, for it takes about 2 hours to perform, and never under 1¼ hours. On the other hand, the incidence of lung complications lately has been unusually high after all operations upon the upper abdomen. In one man whose case-history I have reported elsewhere, the common duct was accidentally divided. It was implanted with the severed pancreatic tissue into the open end of the duodenum. Jaundice occurred for a few days, but the patient soon recovered and was in the best of health seven months later. One patient died.

CASE 5.—A female, aged 47, had suffered from gastric trouble for over 20 years. She had attacks of sickness about every three weeks. There was but little pain, except actually when vomiting took place. She was an emaciated woman. The skiagram showed much delay in emptying of the stomach. Operation on May 21st, 1924. A bilobed ulcer was found on the posterior wall of the duodenum and an incompletely healed ulcer on the anterior wall. Duodenectomy was performed according to the usual technique. There was much fibrosis of the wall of the viscus, the lesser and the greater omenta. The duodenal stump was joined axially to the stomach, a single Connell's suture alone being employed behind. After the operation she suffered from rapid pulse and œdema of the legs, became very pale, so that it was supposed that internal hæmorrhage was occurring, though no confirmatory evidence was obtained. No abdominal signs. A blood transfusion was given, but the patient got weaker and died on the eleventh day after the operation. Post mortem the abdominal wound and the anastomosis had healed to naked-eye inspection, so that at first sight the stomach seemed to pass normally into the duodenum. There was a small acute ulcer 1 inch beyond the junction. The heart was small and atrophic, the myocardium pale and fatty. There were œdema of the legs and some clear fluid in each pleural cavity. Death was due to cardiac insufficiency. This is a mortality of 5·5 per cent. in the first 18 cases.

In considering the mortality of duodenectomy compared with gastro-jejunostomy, it must be remembered that not in all hands is that of the latter operation as low as 2 per cent. During the last three years I have had three deaths after simple gastro-jejunostomy, which may be recorded here.

CASE 6.—A male, aged 67, had gastro-jejunostomy performed for chronic duodenal ulcer on May 10th, 1922. The operation was not unusual in any way. The ulcer was a large one adherent to the pancreas. Very soon after the operation his lungs showed signs of broncho-pneumonia. On the 17th he had a sudden attack of dyspnœa, from which time he got progressively worse until the eleventh day after the operation, when he died. Post mortem: a small infarct of the left lung; broncho-pneumonia throughout both lungs. Anastomosis healed.

CASE 7.—A male, aged 42, had gastro-jejunostomy performed for pyloric obstruction and ulcer of lesser curvature on Oct. 26th, 1922. On the 29th he developed definite lobar pneumonia with signs on both sides. On the night of the 31st he became suddenly hemiplegic on the left side and died the next day—i.e., five days after operation. Post mortem: in the left lung there was extreme congestion of the upper lobe and grey hepatisation of the lower lobe; in the right lung there was congestion and œdema of the upper and middle lobes with grey hepatisation of the lower lobe. The stomach was hypertrophied, the pylorus thickened from fibrous tissue, a band of which connected it with the scar of an ulcer on the lesser curvature 1½ in. from the pylorus. The gastro-jejunostomy

was in normal process of healing. The brain and cord were covered by a thin layer of fibro-purulent material.

CASE 8.—A male, aged 60, on June 17th, 1924, had gastro-jejunostomy performed for a cicatrix of the pylorus following ulcer here. He had recently had severe pain and hæmatemesis. Convalescence proceeded quite smoothly until the twelfth day after the operation, when he suddenly sat up and died. Post mortem: there was a large ante-mortem clot coiled up in the pulmonary artery just at its bifurcation. There was a puckered scar at the pylorus and a large ulcer of the stomach which had been overlooked, situated in the cardiac region with one edge almost encroaching on the œsophagus.

Deaths such as these are extremely difficult to avoid in the present stage of knowledge, in spite of every care being taken in the preliminary examination, and the decision against operating should any signs of a lung affection be apparent. Deaths due to a fault in the technical abdominal procedure have been almost eliminated. It is fair to say, I think, from my own personal experience, that the mortality of duodenectomy will not in the long run prove very much greater than that of gastro-jejunostomy in skilled hands. V. Haberer[17] reports 169 resections with a 3·5 per cent. mortality, and H. Finsterer[18] had a 1·4 per cent. mortality only in his last 71 cases. This death-rate is about the same as the most favourable statistics of simple gastro-jejunostomy.

Of the late results I prefer to leave the consideration of my own cases until a further period of time has elapsed. The early after-history has been very favourable. Finsterer[18] got 59 absolute cures after 3–5 years or longer in 63 cases (93·6 per cent.). In three other cases of this series the patients can eat anything, but occasionally get discomfort; one has heart-burn after heavy drinking, one has ventral hernia, and one lower abdominal pain of unexplained origin.

The future alone will show whether these very good early reports reflect what the result of the operation will be in the general surgeon's hands. Meanwhile, I think an open mind must be kept towards this subject. The operation appeals on physiological grounds, for there is less upset to anatomical relations and digestion if an axial union is performed.

*Pyloric Exclusion for Irremovable Duodenal Ulcers.*

There will always be some ulcers where the local conditions will forbid excision, the cases where, above all others, the operation is needed, where the ulcer is extremely large, unusually callous in nature, and deeply penetrating into the pancreas. It is such cases in which gastro-jejunostomy proves ineffective very often. V. Haberer could only obtain 37 per cent. cures by simple gastro-jejunostomy. Obstructing the pylorus at the same time (by cutting the stomach right across proximal to the pylorus, according to Von Eiselsberg's technique) has proved itself a satisfactory procedure in some cases and has given relief where a previous simple gastro-jejunostomy has proved ineffective. This combination of pyloric exclusion with simple gastro-jejunostomy has been carried out fairly extensively in some clinics, but the balance of opinion is against it, for a jejunal ulcer has been found to occur in 17 per cent. subsequently.

Such irremovable ulcers present, therefore, a very difficult surgical problem, and the only contribution to the subject is that of Finsterer, who asserts that pyloric exclusion with removal of half or two-thirds of the stomach is curative in these cases, and is not followed by jejunal ulceration. In 8 cases, 3–5 years, 7 remained cured, and 1 has had a subsequent cholecystectomy; of 15 cases, 1–3 years, 13 are absolutely well, 1 case has pain, and 1 has had a hæmorrhage. This subject requires further investigation.

*Conclusions.*

There can be no reasonable doubt that in the evolution of the treatment of duodenal ulceration surgery is only a temporary expedient, but neither can it be denied that, in the present stage of knowledge, operative treatment is able to confer upon the sufferer that relief which medicine is unable to bestow. Gastro-jejunostomy is a method which effects a cure in about 70 per cent. of cases in the small series reported here. These results do not show the operation in as favourable a light as revealed by other statistics in this country and America, based on very large series, but they agree with those reported from continental clinics. The direct method of attack, as in the analogous gastric lesion, is likely to prove more effective in treatment if it can be carried out free from serious risk to the patient. In the cases of duodenectomy reported here the early results have been satisfactory, but the later clinical history of these patients remains for further study. This limited experience is favourable enough to justify a continued trial of duodenectomy in the treatment of duodenal ulcer.

I have to thank my colleagues on the staff of St. Mary's Hospital for their courtesy in allowing me to make use, for statistical purposes, of patients who have been under their care.

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## GLYCOSURIA, THE SYMPTOM.*

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THOUGH diabetes was named and described by Aretæus the Cappadocian, about A.D. 70, and was known to the Chinese as the wasting-thirst disease many centuries ago, its striking symptoms must have been encountered long before the era of recorded medical knowledge. The sweet taste of diabetic urine was mentioned by the Indian physician, Susruta, about A.D. 500, and by the Persian, Avicenna, about A.D. 1000. In Europe, however, it appears to have escaped notice until recorded by Thomas Willis in 1679, though its significance as indicating the presence of a sugar was not pointed out till nearly a century later by another English physician, Matthew Dobson. He also discovered that the blood, as well as the urine, of diabetics was sweet, that the latter underwent alcoholic fermentation on standing with a disappearance of the sweet taste, and that on evaporation of a quantity of diabetic urine a white mass tasting like brown sugar remained. His observations on the urine were soon fully confirmed by others, among them the Edinburgh physician, Francis Home. Chevreul, in 1815, showed that the sugar of diabetic urine resembled that derived from starch, but it was not until the year 1838 that Peligot furnished definite proof to the members of the Académie des Sciences, Paris, that the sugar of diabetic urine, of grapes, of honey, and that from starch are one and the same substance, and the name glucose was proposed for it (γλεῦκος—unfermented wine).

* A paper read at the Academy of Medicine, Toronto.

*Reducing Substances in Urine.*

Since then remarkable advances have been made in our knowledge of diabetes, both from the laboratory and clinical aspects. Largely through the introduction and use of simple tests for glucose in the urine it has been found that the symptom is present in a number of conditions other than diabetes mellitus, and also that other substances occurring in the urine in abnormal amounts or under abnormal conditions react to some of the tests like glucose itself. Such facts have added to our difficulties in the diagnosis of diabetes and merit further consideration.

In small amounts glucose is a constituent of normal urine along with minute quantities of other carbohydrates, principally pentoses, dextrins, and other polysaccharides. The term glycosuria should be reserved to designate the condition in which abnormal amounts of glucose (above 10 mg. per kg. bodyweight) appear in the urine. Glycosuria then takes on something of a quantitative character, but it is important to realise that the most commonly used tests for glycosuria, the reduction tests such as Nylander's, Trommer's, Fehling's, Haines's, and Benedict's, do not diagnose glycosuria per se, but merely indicate whether or not reduction of the heavy metal—usually copper—from a highly oxidised form to a lower plane of oxidation has taken place. Other substances in urine besides glucose may cause this reduction, and different testing solutions will respond in very different degrees both to glucose and to other reducing substances—creatinin, uric acid, &c.—while the addition of certain preservatives, such as formalin or chloroform, may result in a factitious reduction and lead to errors in diagnosis. Further, it is often not realised that the concentration of electrolytes and organic matter in the urine as well as the presence of other pathological constituents, such as bile and albumin, excessive amounts of urobilin or indican, play a part in the reduction reaction, some in a positive, others in a negative direction. While under most conditions small amounts of inorganic salts in the urine tend to increase the sensitivity of the reduction test, in other cases reduced copper oxide is not precipitated but remains dissolved in the liquid. Particularly is it important that specimens being tested are not alkaline in reaction, as ammonia and ammonium salts hold cuprous oxide in solution. Creatinin also dissolves cuprous oxide. It is sometimes thought that slight reduction of the test solution by a urine of a very high specific gravity is evidence of glycosuria, but this is untrue. Whenever the high specific gravity is due to glucose the reduction will be intense. On the other hand, urinary specific gravities of 1006 are not inconsistent with moderate glycosuria, especially if the patient is on starvation treatment or is receiving large quantities of fluids.

*Benedict's Test.*

Most of the tests mentioned above, combined with experience in their use, may be made to yield satisfactory results, but the simplest and most valuable qualitative test for sugar is that of Benedict,[1] as with it the possibilities of error are reduced to a minimum. Benedict's solution is so adjusted that the normal amounts of sugar in a urine of medium specific gravity are missed, In its use it must be remembered that the development of complete opacity to light, and not colour change, is the evidence of pathological amounts of reducing substances. The directions for the test must be carefully observed. Eight drops of urine are boiled two minutes over a free flame with 5 c.cm. of the solution[2] and then set aside to cool. If, when shaken, the cold solution blocks out the image of the window bars or the filaments of the electric light, sugar is, in all probability, present. Occasionally a grey-green opacity, due to phosphates, occurs with urines of high specific gravity and also when albumin is present, or with urines of low specific gravity the test may be excessively sensitive. In either case dilution of the urine with an equal quantity of water before testing results in a negative test. Any quantity of glucose missed by such dilution is negligible from a clinical point of view. When a patient with marked polyuria is on a low calorie diet glucose may occasionally cause a reduction to the deep red cuprous oxide without producing complete opacity. On examining such a solution by reflected rather than transmitted light, a reddish opalescence is seen. Considerable amounts of sugar may be present under such circumstances, and when an apparently negative test occurs the test-tube should always be examined for traces of adherent red or yellow cuprous oxide. The further possible sources of error, if one regards a reduction test as significant of glycosuria, are somewhat infrequent and are due to the presence of other abnormal substances in the urine, such as lactose, homogentisic acid, melanin, pentose, or of glycuronates, in cases where certain drugs such as morphine, chloral, and coal-tar compounds have been administered.

*The Fermentation Test.*

In a few cases it is beyond the resources of the average physician's laboratory completely to identify the substance causing the reduction, and such questions may be left to those with a broader chemical training and greater equipment. It is of considerable clinical importance, however, to demonstrate that the substance is or is not glucose. While the history of the case may provide a high degree of probability in one or other direction it is much strengthened by the results of a properly performed fermentation test. In performing a fermentation test there are several points which should be carefully observed. About 1/16 cake of fresh yeast should be rubbed up with somewhat more of the urine than is sufficient to fill the closed arm of the fermentation-tube. The latter should be filled, carefully removing all air bubbles, and the tube set in a warm place for one to 24 hours, preferably in an incubator. At least two controls should be set up at the same time—one with yeast and water instead of urine to determine whether gas is formed from the yeast, and the other with a dilute solution of glucose (corn syrup) to test whether the yeast will ferment glucose. If the first control shows no gas formation in the closed arm of the tube and the second shows considerable gas the result of the test on the urine may be considered. Gas formation will occur providing the yeast is active, due to the fermentation of glucose and of urea. It is advisable, on account of the latter, to consider a urine showing less than ¼ in. of gas in 24 hours as being free from pathological amounts of glucose. Larger amounts of gas after 24 hours' standing, or definite gas formation within an hour or so, are fairly good evidence of the presence of glucose in the urine. Absence of fermentation in a urine which has reduced Benedict's solution indicates the presence of some other abnormal substance, which may or may not be of pathological significance, and special methods must be employed for its identification. The commonest of these substances are lactose and glycuronates, and these may usually be diagnosed from a history of late pregnancy or lactation in the first case, and of the use of drugs in the second case. It may be of value to remember, however, that the commonest sugar encountered during pregnancy is glucose, not lactose, and that this glycosuria may be an accident (alimentary or renal glycosuria), or a pathological symptom of considerable significance.

[1] Benedict, S. R.: Jour. A.M.A., 1911, lvii., 1193.

| Formula: | | |
|---|---|---|
| Recrystallised copper sulphate | .. | 17·3 g. |
| Sodium or potassium citrate | .. | 173 g. |
| Sodium carbonate, anhydrous | .. | 100 g. |
| Distilled water to make | .. .. | 1000 c.cm. |

Dissolve the citrate and carbonate in 700 c.cm. of water with heat. Filter if necessary and add the copper sulphate (dissolved in 100 c.cm. water) slowly with constant stirring. Cool and add water to 1000 c.cm.

[2] The tube may be placed in a vessel of boiling water for five minutes instead.

*Causes of Glycosuria.*

When it has been established that glucose is present in the urine, one must endeavour to find the cause. The possible causes are very numerous and here nothing helps quite so much as a well-taken history to clear up the diagnosis. Glycosuria may result from excessive intake of sugar (the so-called alimentary glycosuria), but this may be determined from the history and from the fact that the excretion of glucose is but temporary. In the anæmias and the toxic goitres, during starvation and under emotional stress, temporary glycosuria may also occur at intervals, the quantities excreted never being very large. Similarly, with a cerebral accident, such as hæmorrhage, thrombosis, or embolism, or with intracranial tumours, pituitary disease or concussion and fracture of the skull, slight transitory glycosuria occurs. These are accidents of carbohydrate metabolism, but, as these conditions may be accompanied by a starvation acidosis with acetone bodies in the urine, a mistaken diagnosis of diabetic acidosis or coma is sometimes made.

During septic infections, cholecystitis, acute and chronic pancreatic disease, and after prolonged alcoholism, more or less transient glycosuria may also be present. Under these conditions the differentiation from true diabetes mellitus may be particularly difficult, as the condition may clear up entirely or progress slowly into true diabetes. Such cases are best regarded as temporary diabetes as they are probably due to a functional degeneration of the islet cells of the pancreas, and the principles of treatment should be those applicable to diabetes mellitus —namely, rest to the pancreas by restriction of diet until the need disappears.

True diabetes mellitus is characterised by recurrent glycosuria over long periods of time. There need not be, and in the milder cases there is not, continuous excretion of glucose throughout the day. The most intense glycosuria follows the meals. The urine secreted during the early morning hours is often sugar-free. It has been stated that the diabetic cannot eat two normal meals without showing glycosuria, and this is true as far as it goes. However, in the milder cases of diabetes mellitus there are no clinical symptoms, excepting glycosuria, and thus diabetes is sometimes confused with certain other less common conditions which show glycosuria on such a test. These are: the renal glycosuria of pregnancy; renal diabetes in Klemperer's sense (benign glycosuria in a nephritic); idiopathic renal glycosuria; toxic renal glycosuria; and a group of cases intermediate between true renal glycosuria and diabetes mellitus, which may be called diabetes innocens.

*Diagnosis of True Diabetes Mellitus.*

Resembling as these cases do the less severe cases of diabetes in many particulars, it is of considerable importance for the patient's future that they should be accurately differentiated from true diabetes mellitus. Careful investigation of all cases of recurrent glycosuria should be undertaken to sort out these patients, since their prognosis is good and is not in any way improved by dietary restrictions. Indeed, they may reasonably be grouped with Garrod's "Inborn Errors of Metabolism," or perhaps, since they are not necessarily congenital in origin, they may be better designated as the anomalies rather than the diseases of carbohydrate metabolism. However, until sufficient evidence has been accumulated to justify freeing him from the diabetic regimen, the individual showing this anomaly should be treated as a diabetic patient. Certain characteristics are common to this group which help to separate it from diabetes mellitus. First, they are symptomless apart from glycosuria unless, perchance, they have previously undergone an excessively rigid dietetic régime, resulting in weakness and emaciation; second, they are usually discovered accidentally during routine physical examination; third, the glucose percentage and total excretion of glucose in 24 hours is small; fourth, the glucose is unaccompanied by acetone bodies unless there are other causes for their presence, such as pregnancy or starvation; fifth, increased carbohydrate intake does not produce a commensurate increase in the glycosuria; sixth, the respiratory quotients after glucose ingestion rise to values around 1, indicating the normal utilisation of the carbohydrate; seventh, the condition shows no tendency to progress even under dietary conditions highly unfavourable to the true diabetic. Probably the most significant differentiating point, however, is the fact that in such cases glycosuria can be repeatedly shown to be present while the blood taken at the same time shows a normal sugar content.

By indirection, then, we arrive at a diagnosis of diabetes mellitus from the symptom glycosuria. It should be emphasised, however, that the symptom itself is of little importance other than as a diagnostic clue to a possible serious metabolic defect. Clinical and laboratory investigation during the last 40 years, culminating in the recent work on insulin, has shown that diabetes mellitus is due pre-eminently to a failure of the islet tissue of the pancreas to function normally. Carbohydrate metabolism is thereby impaired, hyperglycæmia results, and glycosuria occurs when the blood-sugar reaches an excessively high level. Treatment for the condition is not to be directed to abolition of the glycosuria, though this is an incident when treatment is successful, but to the provision of adequate rest to the pancreas from over-work, the maintenance of a normal blood-sugar level, and, at the same time, provision of sufficient calories to restore to the individual the ability to do physical work.

In conclusion, then, one would emphasise the necessity of carefully differentiating glucose from other reducing substances in the urine, and when glucose is actually present the importance of distinguishing between the accidents and anomalies of carbohydrate metabolism and the disease diabetes mellitus.

# Clinical and Laboratory Notes.

## A CASE OF SNAKE-BITE.

### AN UNUSUAL INCIDENT IN SANATORIUM TREATMENT.

BY H. O. BLANFORD, M.B., B.S. LOND.,
MEDICAL SUPERINTENDENT, PRIOR PLACE, HEATHERSIDE, CAMBERLEY.

THE following case occurred at the King Edward VII. Sanatorium, Midhurst, in the exceptionally hot and early spring of 1921.

The patient was a naval officer who had been sent home from Hong-Kong in March with signs of slight infiltration at both apices. His general condition was exceptionally good and the temperature normal and regular. He was therefore able to begin a course of graduated walking exercise almost immediately, and on April 1st I met him near the entrance coming in from his walk at 11.25 A.M. He was grasping the neck of a living viper, about 2 feet long, which had just bitten him. He had been sitting on a bank, and hearing a rustle among the dead leaves put his hand in to investigate, with the result that the snake bit him. He showed me a minute scratch on the skin between the heads of the metacarpals of index and middle fingers of the right hand. I had not previously seen a case of snake-bite, but was under the impression that the bite of an English viper was not likely to cause any grave anxiety.

I proceeded to scarify the skin round the scratch and to rub in potassium permanganate. While I was doing so the patient felt faint and vomited, but it was only when I found the radial pulse almost imperceptible that I began to realise the seriousness of the situation. This was at 11.45 A.M., half an hour after he had been bitten. The patient was at once taken to bed and rapidly grew worse. Diarrhœa began soon afterwards, and by 2 P.M. signs of marked collapse were present, face pallid, radial pulse absent, and temperature

subnormal. At 4 P.M. he complained of severe pain in the hand and forearm, and there was œdema reaching to the elbow. On the following morning, April 2nd, the condition was improved. The diarrhœa had ceased and there had been only one attack of vomiting. Pulse 100. The œdema had increased and spread upwards to the shoulder, and there was diffuse ecchymosis on the inner and posterior surface of the forearm. In the afternoon his condition again became worse, the face was pallid, and the lips cyanosed, the heart beats at apex were 112, with a pause at every third beat. Radial pulse was 84 and weak. He was given rectal and intravenous injections of saline and strychnine hypodermically. Next day his condition appeared critical. The arm was swollen to a great size, and the œdema had spread upwards as far as the angle of the jaw. There was pain on swallowing and also across the right pectoral muscles and scapula.

Mr. David Ewart, hon. consulting surgeon to the Sanatorium, kindly came up to see the case and made two incisions on the dorsum of the hand under chloroform. Serum was evacuated but no pus. After the operation brandy, half an ounce two-hourly, and strychnine, hypodermically four-hourly, were administered. Pulse 112, very weak, tongue furred, face flushed. Urine contained a trace of albumin, no blood. On the following day the condition remained about the same. The painful œdema and ecchymosis continued to spread over the back. On April 7th improvement set in, but the œdema and ecchymosis had spread to the buttocks and left hip. By the 9th the condition was much improved. The incisions were discharging serum freely, and the œdema and ecchymosis were subsiding. He made an uninterrupted recovery, and the pulmonary condition seemed in no way adversely affected. He was subsequently able to leave the Sanatorium at the completion of his treatment and to return to his professional duties.

**Apart from the comparative rarity of snake-bite in this country, the interest of the case was enhanced by the casual manner of its beginning, and the unexpected rapidity and severity of its development.**

## A CASE OF TRAUMATIC THROMBOSIS OF THE VENA CAVA SUPERIOR: RECOVERY.

BY DR. L. VAN DER HOEVEN,
THE HAGUE.

"COMPLETE obliteration of the vena cava superior with the establishment of collateral circulation is extremely rare" (Osler[1]). Syphilis, tuberculosis, and malignant growths in the anterior mediastinum are the most common causes, and complete obliteration by aneurysm is very rare. Although traumatic thrombosis of the vena cava inferior has been observed at autopsy, I find no record of this occurrence in the vena cava superior. Schepelman[2] has published a case of traumatic thrombosis of the left subclavian vein caused by excessive effort on horse-back, but I find no record of any similar occurrence in the medical literature of the war.

In view of the rarity of the condition the following case deserves record:—

A military officer, aged 53, was thrown from his horse on Feb. 8th, 1915, alighting on his back on a hard road. He was rendered senseless for some minutes, and, on recovering, complained of severe pain in his back and chest, and of shortness and oppression in breathing. Next day, feeling his collar tight, he noticed his neck swollen, and by the following day his face, neck, and arms had become enormously swollen and livid, the ears and tongue cyanosed, the eyes protruding, and the veins of the neck and arms dilated. On April 15th, 1915, the cyanotic swelling of the face persisted, the jugular veins and those of the arms being greatly dilated, but those of the thoracic wall were unaffected. There was no jugular pulse, and no œdema of neck or arms. Some dullness over the manubrium sterni was observed, and the cardiac impulse was feeble, but no other abnormality was evident. Wassermann reaction was 100 per cent. positive. He denied syphilis, and I had been his doctor for 40 years and never observed any syphilitic manifestation.

All this pointed to an obstruction of the venous return through the vena cava superior—was the cause pressure by aneurysm or mediastinal blood clot, or was it thrombosis? Thrombosis of the vena cava superior has been found post mortem with syphilitic aneurysm of the aorta, mediastinal gumma, malignant growth, or tuberculous mediastinitis. These causes were all ruled out, as the symptoms immediately followed the accident, and there was no antecedent history of ill-health. The diagnosis of thrombosis was therefore adopted.

On August 16th, 1916, the heart was found normal, and Dr. van der Haer was able to exclude aneurysm or syphilitic aortitis. The cyanosis slowly decreased, and collateral circulation through the superficial veins of the thorax and abdominal wall had become established.

There had never been cyanosis of the thoracic wall, and it was probable that circulation by the vena azygos (which joins the vena cava superior just above the right auricle) was free. The blood from the thoracic wall could thus pass by way of the intercostal veins to the vena azygos major, and by way of the long thoracic, epi-, and hypo-gastric veins to the venæ crurales.

January, 1917: The superficial veins of the arms and jugulars are still dilated, although in less degree. When erect there is but slight cyanosis, but on stooping it becomes apparent, and it is impossible for him to lie flat because of oppression in breathing. He sleeps in bed with the head elevated. There is some dullness over the manubrium and in the second right intercostal space. The heart dullness is enlarged to the right, and the apex beat is nearly in the nipple-line. There is a weak systolic murmur at the apex. The blood pressure is 200 maximum and 100 minimum. Auscultation of the aorta points to the presence of arterio-sclerosis. The W.R. is still strong positive. The heart thus is enlarged, and there is probably a relative mitral incompetence.

October, 1923: The superficial veins are less prominent, but he cannot bend or lie without oppressed breathing and cyanosis. Bicycling or brisk walking against a wind induces dyspnœa. The X rays show an enlargement of the heart in both directions, and there is no shadow of aneurysm.

December, 1923: Heart sounds weaker. There is probably dilated and hypertrophied heart with commencing myocardial degeneration. W.R. and Sachs-Georgi reactions positive.

Jan. 12th, 1924: I examined him with Dr. Lankhout, and we thought there was commencing aortic insufficiency, there being a faint diastolic murmur but no aneurysm.

May 20th, 1924: At this examination I could not hear the diastolic murmur; otherwise the condition was unchanged.

**Cases have been recorded by several observers where obliteration and thrombosis of the superior vena cava were due to syphilitic mediastinitis and phlebitis. Syphilis is doubtless the main cause of chronic obliteration of the superior vena cava. Is the present a pure traumatic case, or was the interior of the vein weakened by a previous chronic endophlebitis syphilitica? In any case it is one of traumatic obliteration. Two months after the accident the heart and thoracic aorta appeared normal, while two years later cardiac dilatation and hypertrophy developed. In this case, where an anatomical diagnosis was possible two days after the accident, a thrombectomy might have been performed; but the indications for this operation, which would be useless if the thrombus were organised, must be very exceptional.**

[1] Obliteration of Vena Cava Superior, Johns Hopkins Hosp. Bull., xiv., 148, 1903.
[2] Monatsschr. f. Unfallheilkund., No. 3, 1911.

## A NOTE ON THE ASSOCIATION OF CANCER WITH TUBERCULOSIS.

BY CHARLES POWELL WHITE, M.D. CAMB., F.R.C.S. ENG.

*(From the Christie Hospital, Manchester, and the Helen Swindells Laboratory, University of Manchester.)*

**IN 180 consecutive autopsies on cancer patients at the Christie Hospital I have found 22 cases (over 12 per cent.) in which there was coincident tuberculosis. In this number are included only those in which the tuberculosis was recent and active, evidences of old tuberculosis, such as calcified nodules or fibroid lungs, being disregarded. The diagnosis of tuberculosis was in all cases based on the presence of active giant cell systems with or without caseation. Tubercle bacilli were found in the majority of cases, but in some they could not be demonstrated. A list of the cases is given in the accompanying table.**

*Table showing Cases of Cancer with Coincident Tuberculosis.*

| Case | Type of cancer. | Primary site of cancer. | Secondaries. | Tuberculosis. |
|---|---|---|---|---|
| 1 | Sq. carc. | Neck. | — | Lupus. |
| 2 | Sq. and col. carc. | Rectum. | Liver. | Rectum, glands. |
| 3 | Sq. carc. | Larynx. | Glands. | Larynx. |
| 4 | Col. carc. | Stomach. | Uterus, ovary, lungs, rectum. | Uterus and tube. |
| 5*a* | Large R.C. sarc. | Testis. | — | Psoas abscess. |
| 5*b* | Sq. carc. | Peritoneum. | Iliac glands. | — |
| 6*a* | ,, | Mouth. | — | Adrenal. |
| 6*b* | Col. carc. | Gall-bladder. | — | — |
| 7 | Sq. carc. | Uterus. | — | Lungs. |
| 8 | ,, | Mouth. | Glands. | ,, |
| 9 | ,, | ,, | — | ,, |
| 10 | ,, | Upper jaw. | Glands. | ,, |
| 11 | Carcinosarc. | Pharynx. | Glands, thyroid, lungs. | ,, |
| 12 | Sq. carc. | ,, | — | ,, |
| 13 | ,, | Larynx. | Glands. | ,, |
| 14 | ,, | Œsophagus. | — | ,, |
| 15 | ,, | Pharynx. | Glands, liver. | ,, |
| 16 | ,, | Mouth. | Glands. | Glands, lungs. |
| 17 | Col. carc. | Rectum. | Glands, liver, lungs. | Glands. |
| 18 | Sq. carc. | Mouth. | Glands. | Glands, spleen. |
| 19 | ,, | Ext. ear. | Glands, liver, lungs. | Glands. |
| 20 | ,, | Mouth. | Glands. | ,, |
| 21 | Col. carc. | Pancreas. | — | ,, |
| 22 | Sq. carc. | Vulva. | — | ,, |

Sq. carc. = Squamous carcinoma. Col. = Columnar. Sarc. = Sarcoma.

[*Notes.*—Case 2: Combined lesion in rectum. Case 3: Combined lesion. Case 4: Combined lesion in uterus. Case 5: Also hydatid cyst liver and elephantiasis. Case 16: One gland carcinoma and tuberculosis. Case 18: Also adenoma of liver. The glands referred to are in each case the regional lymph glands corresponding to the primary cancer.

Case 1 was a carcinoma arising in a patch of lupus, but in none of the other cases was the presence of tuberculosis suspected during life. In a few it was detected at the autopsy, but in most cases it was determined only on microscopical examination.

In Cases 2 and 3 the tuberculosis was present in the primary cancer forming a combined lesion. In Case 2 the site was high up in the rectum, and the carcinoma was columnar and mucoid with areas of the squamous type.

In Case 3 the tuberculosis was in an extensive carcinoma of the larynx.

In Case 4 there was a combined lesion of tuberculosis and columnar carcinoma in the uterus. In this case there was also carcinoma of the stomach and ovary, and it is not certain whether the uterine cancer was a metastasis or an independent primary growth.

Case 5 may perhaps be considered as doubtful as regards tuberculosis, since the only evidence of its presence was a psoas abscess. The patient had a large round-celled sarcoma of the testis and a primary carcinoma (squamous) of the peritoneum. He also had a hydatid cyst and cirrhosis of the liver, and elephantiasis of the thigh and scrotum.

In Case 6 there were also two primary tumours, in the mouth and gall-bladder, and tuberculosis of one adrenal.

In Case 7 tuberculosis of the lungs occurred together with carcinoma of the uterus.

In Cases 8–15 the primary cancer was in the mouth, pharynx, or œsophagus, and the tuberculosis in the lungs.

In Case 16 the cancer was in the mouth and the tuberculosis in the regional lymph glands and lungs. In this case one of the glands showed overlapping lesions of cancer and tuberculosis, and the cancer was being destroyed by the tuberculosis.

In Cases 17–22 the tuberculosis was found in each case in the regional lymphatic glands corresponding to the primary cancer. Sometimes one gland of a group was tuberculous and the rest cancerous, and sometimes the tuberculous glands were the more numerous, and sometimes all were tuberculous, none being cancerous.

With one or two exceptions, then, the tuberculosis was found either in the primary lesion or in a situation closely connected with the primary cancer—the regional lymphatic glands or, in the cases of cancer of the mouth, &c., the lungs. The tuberculosis was obviously secondary to the cancer in most cases, but whether this was due to the entry of tubercle bacilli through the primary lesion or to the presence of cancer reducing the resistance of the body to bacilli already circulating in the system, could not be determined.

It would be interesting to have the experience of others on this association of cancer and tuberculosis.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### SECTIONS OF BALNEOLOGY AND CLIMATOLOGY, EPIDEMIOLOGY AND STATE MEDICINE, MEDICINE, AND THERAPEUTICS AND PHARMACOLOGY.

A COMBINED meeting of these Sections was held on March 4th, Dr. W. EDGECOMBE, President of the Section of Balneology and Climatology, being in the chair, when a discussion on the

NATURE, PREVENTION, AND TREATMENT OF FIBROSITIS

was opened by the PRESIDENT. He outlined the present state of our knowledge of the condition, and spoke of the very extensive incidence of "rheumatic" manifestations which constituted one-sixth of the diseases of insured persons and cost £2,000,000 per annum in sick benefit. Until recently the pathogenesis had been exclusively considered to lie in the realm of metabolism; latterly there had been a strong emphasis, perhaps an over-emphasis, on the infective factor. The sources of infection were the mouth, nose, bowel, bladder and kidneys, gall-bladder, uterus and appendages, and vermiform appendix. An encapsuled focus was more likely to set up fibrositis than one with free drainage. Was the pain due to the presence of bacteria in the capillaries and tissue spaces or to circulating toxins? There was no one specific organism; saprophytic bacteria might cause fibrositis when the resistance of the individual was lowered, but the commonest micro-organism found was the *Streptococcus viridans*. The question remained to what extent the onset was determined by the nature of the soil—was the soil rendered fertile by some underlying metabolic disturbance, or could this alone give rise to fibrositis without any infection? Occasionally cases would fail to improve until the soil was altered. Metabolic disturbances to be considered were of three kinds, the gouty, the dietetic, especially those of excessive carbohydrate intake with lack of exercise, and hyperglycæmia, both glycosuric and diabetic. The immediate causes included damp, chills, cold, extremes of temperature, sedentary life, overfeeding, and over-exertion. He suggested that the discussion should centre around five questions—namely: (1) Is there a metabolic form of the condition? (2) What are the common sites of infection and the common bacteria? Is there any evidence for the existence of a specific organism or selective affinity between different organisms and types of tissue? (3) What is the value of vaccine treatment, either alone or combined with other methods? (In his experience this had been disappointing in most cases, though striking in a few.) (4) What measures could be adopted to reduce the incidence of the disease among the industrial population? In his opinion these should include improvement of housing conditions, abolition of damp cellar-dwellings, and increase of ventilation and sunlight; improvement of labour conditions, prevention of chills, provision of works-baths and drying-rooms, and the prevention of sepsis in the body from such sources as teeth and tonsils. Individual treatment should be directed both towards the metabolic derangement and the predisposing cause, as well as the detection and removal of septic foci. Local treatment must be varied with the case. He regarded spa treatment as helpful in its promotion of elimination and improvement of bodily nutrition via the circulation and the regulation of the diet. He suggested that the Ministry of Health should consider the extension of such treatment for insured persons.

*Statistical Importance of Fibrositis.*

Dr. J. A. GLOVER referred to the investigations compiled in 1922 by 49 doctors observing some

92,000 insured persons. Fibrositis alone was costing from £500,000 to £600,000 per annum. Of the 58,000 males 1100 suffered from lumbago, muscular rheumatism, sciatica, or brachial neuralgia. The incidence increased in geometric proportion according to the decade of life. Females suffered far more than males from muscular rheumatism, but the reverse was the case with sciatica and lumbago. The condition was particularly common in South Lancashire, being one of the indications of the premature senility revealed during the compilation of recruiting statistics in the north-west. Metal workers were especially liable on account of the heavy labour and exposure to chills. As the pain of fibrositis was evoked by movement, the factor of strain was likely to play a large part in ætiology. Dental sepsis, particularly apical, seemed to be especially associated with lumbago. Tonsillar infection was not of so much importance as in the case of acute or subacute rheumatism; 13 per cent. of cases of lead poisoning showed signs of fibrositis. Prevention lay along the lines of school inspection and housing. Dental hygiene should be preached to all, as much to the payer of supertax, with his gold crowns over dead roots, as to the poor. The immediate application of first-aid disinfection to cases of minor sepsis and the avoidance of chills in labour conditions would also help considerably.

Sir WILLIAM WILLCOX believed that in those cases where a focus of infection was not found it was because the search had not been sufficiently exhaustive, and pointed out that antrum infection and diverticulitis were two kinds sometimes overlooked. Focal infections were followed by secondary involvement of lymphoid tissues. He believed that the actual lesions were sterile because caused by the toxin, just as colloidal silica could produce fibrositic formations in the absence of any bacteria. Fibrositis was a gauge measuring the balance between virulence and resistance; both seed and soil must be considered. Factors not sufficiently realised to-day were: (1) Sensitisation, which accounted for the occasional failure of vaccine treatment; and (2) symbiosis. Certain diseases lowered the resistance of the individual to the organism of fibrositis—e.g., malaria. Fibrositis was mostly the evidence of a streptococcal septicæmia, of which other general manifestations could be found, such as anæmia, debility, dilatation of the heart, and a history of appendicitis, cólitis, &c. Periodical medical inspection by persons skilled in detecting foci of sepsis was the best prevention. Skilled massage was the most valuable local measure, flushing the part with fresh lymph-bearing antibodies.

Dr. P. HAMILL urged the primary importance of establishing the diagnosis, so that cases of diabetes, for instance, should not be treated as fibrositis. He regarded the vast proportion of the cases as infective. The virulence of the infection was low but its chronicity great. In many cases there might be no symptoms, but a tonsil on being pulled forward would exude a milky fluid, although neither enlarged nor painful. Chronic pelvic inflammation in women was less often associated with fibrositis than might be expected. The rectum should be investigated for a hidden fistula. In many cases the infection was generalised and the whole subject must be treated. Removal of the focus was not enough; the residual infection had still to be combated. He had had satisfactory results with saline laxatives, but his success with the usual intestinal disinfectants had not been so great. The resistance must be raised by all hygienic measures, and spa treatment often helped patients whose recovery began to flag after awhile at home. Protein shock led to benefit, which was not lasting; it was suitable for early cases. Vaccine treatment was beneficial if judiciously carried out, at long intervals and in small doses. In the few cases where no focus was found a stock vaccine might be given in a test dose, and the cutaneous reactions should be tested. In the acute stages rest, with splints and extension if contractures were present; in the chronic stages massage and gentle movements should be applied. Patients were more tolerant to this after diathermy, which produced relaxation and increased blood-supply. The psychological factor in spa treatment was one of great importance, the supineness of the patient being a serious bar to successful treatment.

Dr. R. ACKERLEY believed that any toxin, if retained in the body, was sufficient to cause a painless fibrosis, which became a painful fibrositis when the factor of stress was added. There was no specific organism. Few women over 40 were without fibrotic nodules, but these were painless because there were no circulating toxins, metabolic or bacterial. Metabolic toxins accumulated with age owing to defective elimination by lung, kidney, and skin, and the body stored them in tissues of the least vitality—i.e., fibrous tissue. They failed to be eliminated owing to defective oxidation associated with the imperfectly oxygenated conditions of modern life. This accounted for the increased severity of the pains in bad weather. The cause was rarely simple and all possible factors must be seen to. The failure of dental treatment was due to its incompleteness; every source of sepsis must be removed, and this must be followed up by every possible measure for the restoration of function.

Dr. W. J. MIDELTON deprecated the number of labels used in this connexion; the only one that seemed to be needed was "acute or chronic toxæmia." He believed that streptococci and staphylococci were always secondary to some specific infection such as typhoid or scarlet fever. He had had much success with P. W. Latham's method of continuous counter-irritation, with croton oil and cantharides.

Dr. A. ELLIS expressed his belief in the metabolic type of fibrositis; some patients were no better for the removal of their septic foci and vaccine treatment; nor would the septic theory account for the different incidence in the two sexes. He regarded fibrositis as a biochemical condition activated by many causes, of which bacterial invasion was one and one only; two main groups could be distinguished, associated with errors of assimilation and elimination respectively. In the former group the patient was suffering from insufficient food and must be fed up; here there were more women than men. In the second group, the lumbagos and sciaticas, the basis was essentially an eliminative error, perhaps the result of living too well. With increasing age elimination became more and more deficient, hence the proportionate increase of these conditions. Bacterial invasion was not concerned at all in this group; the causal factor was overwork or overfeeding. The work of the late Prof. J. I. Hunter had shown that there were two types of muscle fibre, one concerned with movement and the other with maintenance of posture; it was the latter, innervated by the sympathetic, which was painful in these diseases; pain was not experienced until the movement was completed. There was invariably an increase in the magnesium output in the urine, the calcium remaining unaltered, showing the disturbance in the balance of metabolism. The assimilation-error cases must be treated with acid, acid phosphoric being the best; the result was early cessation of pain, especially at night, and alteration in the magnesium ratio. The second group must be treated with alkali, tribasic potash being the most successful, though it made members of the first group very ill. They must also be flushed out with water to assist the elimination.

Mr. J. MCDONAGH pointed out that the condition was one of general involvement of the supporting tissues of the body; seldom was the fibrous tissue alone picked out. The most valuable therapeutic agent was sulphur. He referred to the associated conditions of induratio penisplastica, Dupuytren's contracture, and dermatomyositis. It was in cases of fibrositis occurring in women between 20 and 40 that focal infection played its chief rôle. Gonococcal fibrositis was often not ascribed to its true cause, owing to the difficulty of finding the coccus and its power of lying dormant for many years. In 90 per cent. of cases it was a local recurrence. Acute cases of this type were best treated by the symmetrical urea of meta-benzoyl-meta-amino-benzoyl-1-amino-8-naphthol-3-6-sodium sulphonate (or sum. 36 for

short); chronic cases by intramuscular injections of carbon bisulphide products of diethylamine or contramine. At the female climacteric a distinctive form was met, accompanied by arthritis in the knees and phalangeal joints of the fingers; this was metabolic in origin, corresponding with gout in the male, had a good prognosis and responded well to injections of thiol-histamine. The fibrositis of older people was never seen alone, being one of the clinical manifestations of a general fibrosis; the cause was not ascertainable, and the treatment rested between injections of contramine, insulin, and milk.

Dr. OLIVER HEATH described two personal experiences of lumbago, one following a gumboil, the other an injection of typhoid bacilli. The onset and course argued in favour of a bacteriological causation.

Dr. C. E. SUNDELL was of the opinion that the soil was of greater importance than the seed. The temperature on the whole was subnormal, the skin inactive, and the sweat, when induced, was strongly acid with lactic acid. Treatment should be directed towards flushing out the backwaters of the circulation where fibrositis was liable to occur; exposure to warm moist air for half an hour produced abundant sweating and the excretion of large quantities of acid. Relief was produced, but cure could not be pronounced until the sweat had been rendered neutral.

Dr. M. B. RAY said that during the war "fibrositis" had much the same connotation as "I.C.T.," "P.U.O.," and "N.Y.D." He described the chemical processes occurring in a contracting muscle when there was perfect harmony between nerve stimulation and muscular response. Fibrositis occurred when there was some clogging in the minute lymphatics of the fibrous connective tissue, the treatment was to stop this lymph stasis, and give the digestive system a chance to return to normal.

Dr. HIGGINS referred to the work of continental investigators, and remarked that their results were statistically as good as ours, although they paid little or no attention to focal sepsis. Among their methods were the surgical removal of perithecal fat compressing the lumbar cord and the restoration of the lymphatic circulation, particularly in the region of the sacrosciatic foramen, by massage and calisthenics.

Dr. PARKES WEBER expressed his agreement with the observations of Sir William Willcox and Dr. Ellis, in which he saw no essential contradiction.

## MEDICAL SOCIETY OF LONDON.

A MEETING of this Society was held on March 9th, Dr. EUSTACE M. CALLENDER, the President, being in the chair.

### THE FUNDUS OCULI IN GENERAL MEDICINE.

Mr. ERNEST CLARKE opened a discussion on this subject. He said that ever since the ophthalmoscope was invented medical men had increasingly realised its help in diagnosis and treatment; and its use in medicine had been enormously advanced since the introduction of the luminous ophthalmoscope, which had brought ophthalmoscopy practically within the reach of all. As this instrument could be brought so near to the eye that it almost touched the cornea, it was not necessary for the examiner to have a darkened room, and the patient could be examined in any posture. In addition the reflection of light from the cornea was much lessened, enabling the observer, sometimes, to see through a pin-point pupil, and even inspect the macula. The normal fundus showed a great number of variations, hence it was only by much practice and by looking at every available fundus that the observer acquired the capacity of recognising an appearance which was abnormal. Otherwise he would become alarmed needlessly when he saw such gross changes as opaque nerve-fibres or colobomata, which were of no clinical significance, while he might miss the important fine changes which ushered in the onset of arterio-sclerosis.

*Picture Records of the Fundus.*

Mr. Clarke said an important further advance in the subject had recently been made. At the suggestion of Dr. Rayner Batten, Messrs. Hamblin had recently opened a studio, staffed by trained artists, for making accurate colour-drawings of ocular fundi. The aim was to avoid wearying the patient and keeping the eyes lighted up too long, and therefore the artists had been trained to memorise what was rapidly seen until it had been drawn. At a few minutes notice a patient could be given an appointment and the picture taken while the eye was still under a mydriatic. A great advantage of this was that repeated pictures could be taken, so that a record of progress could be kept in a successful case; or if it were not favourable, the record showed in what direction the disease was advancing. Colour drawings possessed a great advantage over black-and-white ones.

Mr. Clarke showed a number of instructive pictures which had been made in the way described, and gave the histories of the conditions they illustrated. One was that of a woman, aged 42, who was being treated for rheumatism and pyorrhœa. Vision was hypernormal, 6/5 in each eye. Papillitis and hæmorrhages were present in both eyes. There was swelling of the disc in the right eye to +2, and of that of the left +3. Her teeth were attended to, she was autoinoculated, she gradually improved, and the manner in which the eyes indicated the progress was plainly shown by the pictures of the fundus. In contrast to this was the case of a man, aged 48, who had 6/9 vision in each eye, but it was recently becoming worse. He was suffering from pyorrhœa and intestinal toxæmia. Papillitis was present in both eyes, and a serious view of the case was taken. A few weeks later there were choked discs, but the man had no headache or sickness, though the fundus appearances pointed to brain tumour. After consultation with a physician, a decompression was decided upon, but the patient died on the table. Post mortem, a fairly large glioma was found on the right side at the junction of the occipital and temporal lobes. One of the large series of pictures he showed had reference to a case of veronal poisoning. A woman, aged 61, was much worried and suffered from insomnia. To secure sleep she took a very large dose of veronal. When the speaker saw her she had marked papillitis and retinitis, with hæmorrhages in both eyes, particularly the left. The appearances were such as to suggest cerebral tumour, but under treatment she gradually improved, and a month later the papillitis and hæmorrhages had disappeared, leaving only a slight post-neuritic blurring of the disc, and this subsequently ceased leaving both fundi normal. Another series showed gradual improvement of diabetic retinitis under insulin treatment.

In conclusion, Mr. Clarke said it would be generally agreed that a collection of fundus pictures, accurately drawn—many pictures referring to the same case—formed into a permanent library, would be of enormous use. Copies of these pictures and lantern slides of them could be obtained with the consent of the doctor, and they would be a great aid in educational work. As the names would never appear, the patient's consent was not necessary.

*Discussion.*

Dr. JAMES COLLIER said an ophthalmoscopic examination should be made in every case of illness, whatever its nature. It could be done very quickly and afforded valuable information. To the beginner every fundus was of interest, and he should practise on normal people, to enable him readily to detect the abnormal. In his own wards every student was obliged to use the ophthalmoscope on every patient, and he criticised what the students reported they saw. In this country much more attention seemed to be paid to ophthalmoscopic examinations than in America. In many diseases the first symptom might be ocular. Even more important than positive findings in general medicine were indications that the ocular fundi

were normal. In the presence of such symptoms as headache, giddiness, and transient blindness it was impossible, without an ophthalmoscopic examination, to treat the condition without a lurking suspicion that a serious organic condition underlay the symptoms. On two occasions he had been called to cases having severe symptoms and the patient expired almost immediately; yet the ophthalmoscope revealed intense papillitis and proved the existence of a cerebral tumour. But there had been no complaint of headache. Often examination of the fundus oculi settled the diagnosis in otherwise doubtful cases. In one case a little girl was admitted to hospital with urgent symptoms of meningitis; she was unconscious, and had head retraction and vomiting. Lumbar puncture resulted in a large quantity of blood-stained fluid being withdrawn. Twenty minutes later she was sitting up and playing with toys. After recovering from her unconsciousness she was found to have asteriognosis down the right side, showing the probability of a lesion in the parietal lobe. His diagnosis was that she had had a subarachnoid hæmorrhage, which had torn up part of the parietal lobe, probably arising from a congenital aneurysm. An alternative diagnosis of poliomyelitis was offered by a colleague, but in one eye, just round the disc, there were three small groups of fine superficial hæmorrhages, and these had never been reported in association with poliomyelitis, but were a frequent accompaniment of subarachnoid hæmorrhage.

Dr. PARKES WEBER referred to ophthalmoscopic appearance as a clinical sign of recent death. He said his attention was directed to the subject by chance when he was house physician in 1892, by a case in which the heart ceased to beat while he was examining the patient's optic disc with the ophthalmoscope. In the same year he was called to a patient just after death had occurred, and he found the columns of blood in the retinal blood-vessels interrupted by small spaces, looking like the segmentation which sometimes occurred in the mercury column of a manometer. He found that by exerting pressure on the chest these small spaces could be moved backwards and forwards. In one case a single spontaneous inspiration took place after he had found this ophthalmoscopic phenomenon of segmentation was already present. He gave references to observations of a similar nature which had since been made by others, both on the continent and in America. M. H. Kahn, in his most recent paper on the subject, 1924, entitled "A New Vascular Sign of Death," said that in vitro segmentary coagulation could be produced, but not without difficulty, and concluded that segmentation in the venules and arterioles was a definite sign of death and that it should rank equally with the other clinical signs of death. Dr. Weber said it should not be inferred, in the absence of this sign, that the person was not yet dead.

Dr. RAYNER D. BATTEN showed a series of consecutive drawings of fundi illustrative of the changes seen in association with various diseases, including the macular changes seen in mental degeneration. A record in words, he said, failed to convey a proper impression of the condition seen, and hence consecutive pictures were the only means to this end. He urged that medical men should be willing to supply a note of the clinical features of cases of which fundus drawings were made.

*Fundus Changes in Toxæmic States.*

Sir WILLIAM WILLCOX agreed as to the great importance of ophthalmoscopic examinations in ordinary medical work. In every case the fundus ought to be examined, and if that were done more would be known about the relationship of the eye changes to general diseases, and diagnoses would be more accurate. He said he had recently been interested in the changes in the fundus oculi in association with toxæmic cases. Until comparatively recently it was taught that fundus changes were either due to diabetes, or to Bright's disease, or to high blood pressure. But it was quite common to find hæmorrhages and other changes in the fundus in cases showing no increased blood pressure and whose renal function was normal. In such cases it was most important to search for every avenue and channel of infection. When such were found and put right, it was surprising how soon the fundus changes cleared up. He usually included among the measures in such cases Plombières treatment, as there was often a secondary septic involvement of the colon. Some drugs seemed to show a special affinity for retinal tissue, and a good example of that was atoxyl; in certain people quinine had a similar special effect, and he related a case in which a large dose of quinine given mistakenly for malaria produced temporary blindness. With regard to veronal poisoning, he said a number of nervous symptoms were recurring to-day—usually attributed to other causes—which seemed to be a sequel of medicinal treatment by veronal at some previous date. He asked why certain patients with a focal infection had retinitis. Was it because retinal tissue was specially sensitive to the toxin? Or were the patients sensitised to the toxin, which was usually a streptococcal one? When retinal changes were present he thought special care should be exercised in the use of vaccines, and said that his own practice was to start with only 5000 or 10,000, instead of the usual millions because of this sensitisation, which was akin to asthma and angioneurotic œdema.

The PRESIDENT spoke of the value which a book consisting of a collection of pictures of fundus appearances associated with various diseases would be to the general practitioner, who had sufficient experience to recognise from what he saw that something was wrong, but often he was not familiar enough with the changes to base his diagnosis upon them.

Mr. CLARKE briefly replied.

## BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on March 5th, Dr. E. F. MAYNARD, the President, being in the chair.

Mr. H. N. FLETCHER read a paper on some points in connexion with the

*Painful Dyspepsias and their Diagnosis.*

After remarking that the old view of hyper-acidity as the cause of pain had been discarded, except in so far as it might be so indirectly, he described the experiments of Hardt, Carlson and others, and their evidence that increased intragastric tension was the true cause. The recent views of A. F. Hurst as to how this increased tension was brought about by the reflex influence of diseased states within and without the stomach were referred to, and the need for further knowledge of the neuro-muscular apparatus of the stomach, the exact part played by the vagus and sympathetic nerves, and their possible control through Keith's nodes was emphasised. Mr. Fletcher then described in detail the salient characteristics of the common causes of painful dyspepsias, gastric and duodenal ulcer, gastric cancer, cholecystitis, chronic appendicitis, visceroptosis and "nervous" dyspepsia, and laid stress upon the paramount necessity of a detailed history and physical examination of the patient—the important differential points of which, in making a diagnosis, he described.

*Discussion.*

The PRESIDENT in his remarks agreed with Mr. Fletcher in his statement regarding the time incidence of pain, as a differentiation between gastric and duodenal ulcer. As regards vomiting, this is not at all characteristic of gastric ulcer. If, for instance, epigastric pains and vomiting are present one would think at once not of gastric ulcer but gall-bladder or duct. The pain in the gall-bladder radiates up to the right shoulder. We must not, he said, lose sight of the fact

that epigastric pain may be due to angina, pericarditis, or pleurisy. He considered that in neurasthenics there were almost as many cases of hypochlorhydria as hyperchlorhydria.

Mr. G. W. BERESFORD considered that in neurasthenic subjects slight pain is exaggerated into severe pain. Excluding nervous dyspepsia, epigastric pain, he said, is due to organic lesion in the upper abdomen.

Dr. W. BROADBENT said that in his experience of duodenal ulcer there was seldom any previous history of dyspepsia. He referred to the diminution in the number of gastric ulcers of recent years and suggested that modern hygiene might account for this. Neurasthenic dyspeptics complain of very severe pain but absence of tenderness on palpation.

Dr. DONALD HALL drew attention to the great care Mr. Fletcher took in studying the clinical history and symptoms of his patients. He would like to support the statement Mr. Fletcher had made that X rays were not so reliable in duodenal as in gastric ulcer, and he quoted three cases. A medical man, aged 47, had symptoms of duodenal ulcer for seven years with typical time incidence, relief from the taking of food and alkalis, and with the characteristic remissions. By X rays a diagnosis was made of chronic duodenal ulcer, but the surgeon whom he consulted advised a course of strict Sippy diet for six months. On this régime the patient was free from symptoms, but before the six months had elapsed he had for the first time pain and tenderness in the right iliac fossa. He was operated on the same evening when the greater part of the appendix was found to be represented by a mere cord, while the proximal stump was acutely inflamed and would have gone on to perforation. That patient had had repeated mild attacks of obliterative inflammation without at any time pain or other symptoms in the region of the appendix, but in his case there was a possible fallacy because the surgeon did not feel justified at the laparotomy in exploring the upper abdomen, and there may have been a coexisting duodenal ulcer. He had, however, on ordinary diet, now been free from symptoms for 18 months. A middle-aged clergyman had suffered from painful dyspepsia for several years and had declined exploratory laparotomy. He had written to Dr. Hall stating that at last it was known what had been at fault; he had been X rayed and was found to have dropped colon for which he asked Dr. Hall to treat him. While reading the letter an urgent message came to see the patient. Dr. Hall found him in acute agony as from perforation. He was operated on that morning and a large tear found in a chronic ulcer of the duodenum. He died the following day. A retired lieutenant-colonel, aged 56, with a long history of dyspeptic troubles was X rayed in London. Lane's kink and visceroptosis were found, and after elaborate surgical operation he was sent down to Brighton to convalesce. Taken ill during lunch he was seen in the lift at his hotel and at first sight appeared to be dead. When later on it was possible to move him to his bedroom he was found to have fainted as a result of severe internal hæmorrhage. Melæna was present for days, and after medical treatment for several weeks gastro-enterostomy was performed and the clinical diagnosis of duodenal ulcer was confirmed. Dr. Hall stated that he was a firm believer in "appendix dyspepsia" as a clinical entity, but where local signs were wanting the mentality of the patient must be carefully studied before operation. Abdominal operations based solely upon subjective symptoms were to be deprecated.

Dr. W. BARRINGTON PROWSE said that too much must not be expected from X ray examinations and the result must always be taken in conjunction with the clinical evidence, but there is no doubt that X ray examinations are a very valuable help in doubtful cases. He considered that in supposed gastric cancer X ray is extremely valuable as a help in determining the question of operation.

Dr. H. M. GALT showed microscopical slides of sections of stomach through one of the rugæ; stomach with the vessels injected; small intestine and small intestine with the vessels doubly injected.

## ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on March 5th, with Dr. PETER HOWIE, the President, in the chair.

### *Exhibition of Cases.*

Dr. WILLIAM BROWN showed a case of *Hirschsprung's Disease* in a boy of 3 years, the youngest of a family of eight. There was no history of tubercle or syphilis in the family, and the patient's Wassermann reaction was negative. There was a history of attacks of diarrhœa during the past 18 months with swelling of the abdomen, visible peristalsis, and rumbling noises, which all disappeared temporarily when an aperient was given. There was no constipation. On admission to hospital there was visible peristalsis of the large bowel. Screen examination after a barium enema showed an enormous pelvic colon lying in the right iliac fossa and extending up to the liver, with dilatation of the descending and transverse colon. Treatment consisted of lavage with saline solution, at first once, later twice, daily, with a weekly dose of castor oil; great improvement followed—peristalsis ceased, the abdomen decreased in size, and the tone of the wall improved. A recent barium enema showed a smaller calibre of the colon and better tone of its walls. The patient was not confined to bed. Photographs and tracings of the radiographic examinations were shown.

Mr. ALEXANDER MITCHELL showed a boy in which treatment of a *Streptococcal Arthritis of the Knee* by Willems's method had resulted in a completely mobile joint. He emphasised the necessity of making the incisions the whole length of the joint, and of full active movement. Pain was an obstacle to movement, but by adopting Everidge's method of a back splint slung by an arrangement of weights and pulleys the effect of gravity could be almost entirely eliminated.

Dr. A. G. ANDERSON showed a boy who had sustained a *Fracture of the Skull* in a motor accident, where the signs and symptoms showed the presence of a right-sided cortical lesion. Immediate operation revealed a diffuse meningeal hæmorrhage, and decompression was followed by recovery, practically complete in two days. There were no sequelæ.

Mr. WILLIAM ANDERSON presented a tailor, aged 31, who complained of loss of power in extending the fingers of the right hand. It was found that the extensors communis digitorum and carpi ulnaris did not react to faradism. There were no sensory changes. X ray showed uniform thickening of the shaft of the radius, and the Wassermann reaction was strongly positive. All ordinary treatment by electro- and physio-therapy had proved useless.

Mr. G. H. COLT demonstrated a small loose bone removed from the upper end of the olecranon fossa in the elbow-joint, and showed radiograms. It was of interest to speculate as to the origin of the loose body—was it a chip off the epiphysis which had gone on growing, nourished by the synovial fluid, or did it represent an actual complete ossific centre?

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STATE DISTRICT MEDICAL ASSOCIATION, U.S.A.—H.R.H. the Duke of York has signified his willingness to accept the honorary membership of the Inter-State Post-Graduate Assembly directed by the State District Medical Association. This will be conferred upon him at the inaugural ceremony on June 2nd at the Royal Society of Medicine, when the visit of the Association to this country commences. The following also will be made Honorary Members: Mr. Austen Chamberlain, Mr. Neville Chamberlain, Lord Desborough, Lord Dawson of Penn, Sir Humphry Rolleston, Sir John Bland-Sutton, Sir StClair Thomson, Sir Holburt J. Waring, Mr. Philip Franklin, and Sir John Y. W. MacAlister.

# Reviews and Notices of Books.

PSYCHO-ANALYSIS.

*Collected Papers.* Vols. I. and II. By SIGM. FREUD, M.D., LL.D. Authorised translation under the supervision of JOAN RIVIERE. London: Hogarth Press. 1924. Pp. 359 and 404. 21*s.* each vol.

IT is 32 years since Freud and Breuer published a joint article which became the starting-point of psycho-analytical practice and theory, and these volumes, the first instalment of a projected series of four, carry on the story of the growth of psycho-analysis from that beginning. Study of the development of a theory is not perhaps necessary to a practical understanding of it, but the order of development of this theory indicates the path that an investigator might follow who set out to test it by clinical experiment. The opening paper critically appraises the value of Charcot's work, and in the second, the joint article referred to above, the authors claim to have made a further step along the path which Charcot first opened up and describe the curative effect of the abreaction of accumulated stimuli arising from memories which are "not at the disposal of the patient in the way that his more commonplace memories are." This was the germ of Freud's theory of the unconscious, but the method was not yet that of psycho-analysis; it was that of the revival of memories in a hypnoidal state, which was freely used in the treatment of "shell-shock" during and after the late war. In the fourth paper, dated 1894, Freud describes the *defence neuro-psychoses* in which the affect—i.e., the emotional charge—of an unbearable idea becomes the source of symptoms, and he declared that the unbearable idea is always found associated with the sexual life. In separating the *anxiety neurosis* from "neurasthenia" he states as a principle of clinical medicine that the psyche "develops the neurosis of anxiety when it feels itself unequal to the task of mastering (sexual) excitation arising endogenously." Here Freud entered upon that period when, as he expresses it in another chapter, he settled down, like Robinson Crusoe, as comfortably as possible on his island. This isolation lasted ten years though, as he points out, he had advanced nothing new by suggesting the sexual ætiology of the neuroses, for undercurrents in medical literature acknowledging these facts had never been absent, though the official medicine of the schools has behaved as if it knew nothing about it.

A reply to Lowenfeld's criticism of the theory of this "actual" neurosis suggested that such factors as hard work, worry, or definite shock are operative only when sexual difficulties are present, but it is to be noted that in his "Introductory Lectures," written at a later date, Freud states that the "traumatic neuroses" cannot be correlated with his general scheme. He has also retraced his steps in regard to the influence of sexual trauma in the ætiology of hysteria, and describes his bewilderment (p. 299) when he found to be untrue some of the statements of hysterical patients concerning sexual experiences in early childhood. This led to the realisation that since these patients traced their symptoms to fictitious traumas, thus creating such scenes in phantasy, psychical reality must be taken into account as well as actual reality. An important principle is here established—that what the nervous patient believes, whether true or false, must be given validity in any scheme of psycho-pathology and itself be made the subject of analysis.

The final chapter of the first volume gives a history of the psycho-analytical movement with the controversies that led to the secession of Jung and Adler. The former has, according to Freud, bowed to the storm and abandoned the psycho-analytical position in an effort to placate opposition by eliminating the disagreeable, whilst Adler's secession is traced to personal ambition. Freud himself certainly never trims his sails. The chapter, in the second volume, on sexual morality and nervousness will, perhaps, frighten the cautious with its observations that the double code of morality conceded to the male in our society is the plainest admission that society itself does not believe in the possibility of adherence to those precepts which it has enjoined on its members, whilst under the disappointments of matrimony women succumb to severe lifelong neurosis. But it should be studied in relation to the chapter on the future of psycho-analytic therapy, where are sketched the possible results of the general diffusion and acceptance of psycho-analytic doctrine. The countless numbers who take flight into neurosis "would have to be honest, own up to the instincts that are at work in them, face the conflict, fight for what they want or go without, and the tolerance from the community which is bound to ensue as a result of psycho-analytical knowledge would help them in their task." Alarming this may be, but it does not of necessity involve moral disaster to our civilisation. In an equally outspoken chapter on the transference-love Freud emphasises those obligations, the general observation of which has always permitted the confidential relation between physician and patient.

Freud wrote, in 1914 (Vol. I., p. 328), that he was either compared with Darwin and Kepler or was hooted at as a general paralytic. The gradual spread of his theories in the face of strenuous opposition points to a vitality that distinguishes them from a passing craze, and the possibility is emerging that his place may indeed be among the pioneers. These volumes may, then, be studied as a record of history in the making.

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ACUTE INFECTIOUS DISEASES.

A Handbook for Practitioners and Students. By J. D. ROLLESTON, M.A., M.D. Oxf., Senior Assistant Medical Officer, Grove Fever Hospital, London. London: William Heinemann. 1925. Pp. 376. 12*s.* 6*d.*

MANY workers in fever hospitals must have cherished the hope that Dr. Rolleston would one day embody his exceptional experience of the infectious diseases and the literature concerning them in a manual such as this.

The handy volume before us contains an astonishing amount of information in its 376 pages. Much space has been saved by the complete omission of illustrations and temperature charts, the author holding that the bedside is the only place for the study of cutaneous lesions and the course of pyrexia. Admitting that many pictures are useless or even misleading, some may be really instructive, for instance, well-chosen photographs illustrating the differential diagnosis of small-pox and chicken-pox. As regards temperature charts, we believe that their omission is a mistake, especially in a book intended partly for students. In his description of the various fevers, moreover, the author does not always give a very clear idea of the course of the temperature, as, for example, in his chapters on scarlet fever and measles. The prodromal temperature of the latter especially is not described in such a way as to make a student realise the importance of the remission, which so often leads the medical attendant to the premature conclusion that the case is not going to be one of measles after all. In the same way no description can be quite as effective as the chart of an actual case showing the primary and secondary fevers of small-pox. For the practitioner with some knowledge of the subject, however, this defect, if it be one, is of little moment, and in any case it may be doubted whether the book is quite suitable for the student. It contains much more than is required for examination purposes, and, in particular, goes so fully into quite exceptional complications as to leave an exaggerated impression of their importance, though we must do Dr. Rolleston the justice of acknowledging

that he lays emphasis on their rarity. It is to those whose work lies in fever hospitals that the volume will be most valuable. It gives a quite admirable survey of the whole literature, and a very full bibliography is appended to each chapter. Even the most industrious readers will find much in it that is new to them and will be stimulated to be on the look-out for some of the more unusual complications of the various diseases.

A word of special praise is due to the brief historical notes with which each chapter opens, and which give just the information required. A little more space might have been given to the sections on differential diagnosis. Admitting the rarity of typhus in this country, its distinction from enteric fever deserves more space than that allotted to it, and the diagnosis of rubella from scarlet fever and measles is also treated somewhat scantily. A more serious defect is the total omission of the differentiation of chicken-pox from small-pox, the reader being referred from each chapter to the other only to find cross-references. It is curious that in a book so well up to date—an excellent account of the very recent work of Dr. and Mrs. Dick on scarlet fever is given—Dr. Rolleston has endorsed what we can only regard as the original error of Schulz and Charlton in their interpretation of their "extinction" test. As W. Mair pointed out a year ago, and as is now generally held, the blanching of a scarlet fever rash is not caused by a *normal* serum, but by the serum of either a convalescent from scarlet fever or of someone who has acquired an immunity to that disease either by having had an attack of it or in some other manner.

We have enjoyed those chapters in which the author has allowed his own experience and opinions to appear clearly; that on diphtheria is a good example. Other chapters of special interest are those on Vincent's angina, the paratyphoid fevers, and erythema infectiosum. Throughout the volume the statistical figures taken from the records of the Metropolitan Asylums Board will be found useful for reference and comparison by those in charge of hospitals. Dr. Rolleston's book will, we are assured, be of great use to many practitioners as well as to workers on fever.

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PERNICIOUS ANÆMIA AND APLASTIC ANÆMIA.

*A Contribution to the Study of Pernicious Anæmia and Aplastic Anæmia.* By ARTHUR SHEARER, M.D. Bristol: John Wright and Sons, Ltd. 1924. Pp. 94. 7*s*.

IN this volume, a thesis presented for the degree of Doctor of Medicine in the University of Leeds, the author gives a clear and comprehensive account of all that is known and of much that is merely suggested in regard to pernicious anæmia. Section I., which deals with this condition, is a model of what an essay on a medical subject should be and amply justifies the award of the degree "with distinction" which his thesis achieved for its author. Section II. deals with the aplastic anæmias. Little new light is thrown upon this complex problem, but Dr. Shearer does good service merely in coming into the open with an expression of views upon a subject concerning which there is a very considerable amount of haziness in the minds of many medical men—laboratory workers and clinicians alike.

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ELECTRICITY IN DIAGNOSIS AND THERAPEUTICS.

*Leitfaden der Elektrodiagnostik und Elektrotherapie.* Seventh edition. By Prof. Dr. TOBY COHN, Nervenartz in Berlin. Berlin: S. Karger. 1924. Pp. 232. G.m.7.20.

THE seventh edition of this book, like those which have preceded it, deals at length with the subject of electro-diagnosis. Electrotherapy is considered in the second half of the volume. The first 107 pages are devoted to the study of the electrical reactions of muscle and nerve. After a brief description of apparatus, the author has written an account of that part of the physiology of muscle and nerve which is relevant to the subject of reaction-testing. The reactions in health and disease and the methods of testing them by the faradic and galvanic currents are described in detail, and the meaning and clinical significance of the different reactions are discussed. In the present edition the author has added a note on the chronaxie and the work of L. Lapicque and L. Bourguignon. He refers to the lengthening or shortening of the chronaxie in various diseases, but does not discuss the possibility of gaining additional information of clinical value by means of the chronaximeter. In the second part of the book the therapeutic properties of the various electric currents are considered and instructions are given for the treatment of various diseases and morbid conditions by these currents. The faradic and galvanic currents are most fully considered. Short chapters on treatment by static electricity, sinusoidal currents, and condenser discharges are added. The chapter on high-frequency currents and diathermy is too brief in relation to the importance of these subjects.

This book is of value mainly for the complete accounts which it contains of the uses of the faradic and galvanic currents for diagnosis and treatment. The plates showing the positions of the motor points are among the clearest and most instructive that have been published. The superficial muscles are shown together with the nerve trunks where the latter are closest to the surface. Over each plate is placed a sheet of tissue paper. This partly obscures the drawings of the muscles, but shows the position of the motor points where the testing electrode should be placed. The tissue paper can be raised when desired, so that the operator can obtain a guide to the relationship of the muscles which he is testing.

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REJUVENATION BY GRAFTING.

By Dr. SERGE VORONOFF. Translated by FRED. F. IMIANITOFF, B.A. Lond. London: George Allen and Unwin, Ltd. 1925. Pp. 224. 15*s*.

Dr. Voronoff's work is already well known in this country, although this is the first time that an official translation has appeared. The preliminary chapters are historical and deal with early experiments in grafting senile rams. A point of great interest, however, is the fact that according to the author a testicle taken from a six months ram and implanted into the scrotum of a senile ram continued progressively to develop, and to pass from the prepuberal stage to that of spermatogenesis. This, of course, means that not only did the graft preserve its vitality, but that it definitely completed its progressive development in its new surroundings, a claim that is considerably in advance of that made by other workers in the field of grafting. Dr. Voronoff then describes how his early successes amongst animals induced him to attempt a similar feat in the case of man, and he narrates how the work of Grunbaum, Bruch, Thorek, and others on the similarity of the serum reactions in man and the anthropoid apes led him to choose a chimpanzee as a source for his grafts. The results he obtained are given in detail in 44 case-sheets. Summarising these one may see that in the great majority of cases benefit to the general health, mental vigour, and muscular activity of the patients grafted appear to have taken place, whether the grafting were done for senility or for testicular insufficiency. In those cases, however, in which the operation was carried out for sexual neurosis and impotence, the results were generally negative. The book concludes with chapters by Dr. Edward Retterer on the structure of the chimpanzee's testicle, and on the histology of testicular hetero- and homo-grafts.

The book is written by an enthusiast and there are statements within its covers which cannot be accepted without reserve. However, it must be admitted that Dr. Voronoff has accumulated a great deal of material in support of his thesis, and for this reason his work merits attention.

### A HANDBOOK OF MIDWIFERY.

Sixth edition, enlarged. By COMYNS BERKELEY, M.C., M.D. Cantab., F.R.C.P. Lond., Obstetric and Gynæcological Surgeon to the Middlesex Hospital. London: Cassell and Company, Ltd. 1924. With colour frontispiece and 74 illustrations in the text. Pp. 578. 8s.

A BOOK which has reached a sixth edition requires little testimony as to its usefulness or popularity. This little handbook, written mainly for candidates sitting for the Central Midwives Board examination, contains not only sufficient theory for that purpose, but also much practical information upon the hygiene of pregnancy and lactation. In cases where breast milk is deficient, as shown by test-meals, complemental rather than supplemental feeding is advocated. The section dealing with artificial methods of feeding is particularly good and includes various formulæ for the modification of cows' milk; these appear to be based upon the percentage system of Truby King. This edition has been thoroughly revised and, in places, rewritten.

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### PHARMACOLOGY AND THERAPEUTICS.

*Medicamenta Recentia of Allen and Hanburys.* Second edition. 1925.

THOUGH primarily concerned with the products of Messrs. Allen and Hanburys, this neat little book is something much more; it is an index of the drugs applicable to modern methods of treatment and helps to supply the gap, so often felt by the practitioner, between the new methods of treatment invented by scientific pioneers and used by specialists and the same methods as they can be applied in general practice. Apart from the full list of drugs there are short explanatory notes on medical matters which have been prominent in recent years. Chief among these is an excellent summary of the Dangerous Drugs Act, and we recommend that a similar summary on scheduled poisons should be inserted in the next edition. Other subjects annotated are the recent advances in diet, Graham's method, Allen's method, dietetic control and insulin, and the Lenhartz diet. Blank pages are included at the end for the medical man's personal notes on his cases, and we may suggest that if these periodical observations were made by any large group of practitioners carefully and with dates, a compilation of them should be of high practical value, especially if any following-up of the cases of interest were pursued.

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### ORGANIC MEDICAMENTS AND THEIR PREPARATION.

English edition. By ERNEST FOURNEAU, Head of Laboratory for Therapeutical Chemistry in the Pasteur Institute; Member of the Academy of Medicine; formerly Director of the Poulenc Laboratories. Authorised translation by W. A. SILVESTER. With prefaces by EMILE ROUX and GEORGE BARGER. London: J. and A. Churchill. 1925. With 22 illustrations. Pp. 262. 15s.

THIS book consists of a series of lectures on the composition and chemical preparation of a number of substances in use in therapeutics. Dr. Fourneau begins with guaiacol and phenacetin, explaining first the principles and then the detail of their formation from phenol; he then deals in a similar manner with some of the antipyretics, hypnotics, local anæsthetics and antiseptics, organic compounds of arsenic and mercury, and the first part is completed by a consideration of the structure of adrenalin and the phosphatides. The second part consists of practical directions for the preparation in the laboratory of about 30 of the substances discussed. The book ought to have considerable effect in arousing interest among young organic chemists in chemo-therapeutic research; it is both terse and simple, and in it is revealed the outlook of one who combines a first-rate practical sense with imagination and enthusiasm. There are many suggestions of problems needing attack. Dr. Roux, Director of the Institut Pasteur, who has written a preface to the original French edition, describes the book as being above all a programme, and a call to his countrymen to enter a field of important research which they have largely neglected.

The appearance of the book in English, as well as in French, may have important consequences; it is said, for example, that recent brilliant developments of physiology in America have been in some measure due to the influence of Bayliss's "Principles of General Physiology." Fourneau's book may well have similar effects, and it is to be hoped that teachers of pharmacology and organic chemistry will not fail to introduce the book to their more promising pupils.

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### BOOKS FOR NURSES.

(1) *Applied Chemistry for Nurses.* With Laboratory Experiments. By JOSEPH L. ROSENHOLTZ, Ph.D., Assistant Professor of Geology in the Reusseler Polytechnic Institute, New York, &c. London and Philadelphia: W. B. Saunders Company. 1924. Pp. 220. 10s. 6d.

(2) *Fundamentals of Chemistry.* A Text-book for Nurses and other Students of Applied Chemistry. By L. JEAN BOGERT, Ph.D., Research Chemist, Obstetrical Department, Henry Ford Hospital, Detroit, &c. W. B. Saunders Company. 1924. Pp. 324. 14s.

Prof. Rosenholtz's book consists of two parts, the first dealing with the theory of chemistry and the second with experiment. The former attempts to give a complete elementary view of chemistry from a medical aspect. The descriptions are not well balanced, swaying between extreme simplicity and complexity. On the one hand we have a warning about not writing the second letters of an element like Sn in capital form, whilst on the other we have a proposed graphic formula for morphine, occupying about half a page. The experiments are in the most case pointless.

The nurses of America must indeed be remarkable, for, according to the author, in a course of 20 hours, for both theory and practice, they are taught the whole of chemistry. The following questions, taken at random from the author's tests at the end of his chapters, are among those which they are apparently supposed to be qualified to answer: Discuss the size of the protein molecule. How are ptomaines formed? Discuss the various steps in the formation of coal. Discuss the use of radium, and What is steel? Compared with this the claims of certain "Language Institutes" to teach one to speak foreign tongues without a master in 24 hours are as naught.

Exactly the same reflection occurs to the mind in reading Dr. Bogert's treatise, which is a far better book. He attempts to give a complete general account of chemistry, organic, inorganic, physical, and physiological, within the space of 324 pages. A preliminary glance at the table of contents would give the impression that he has set himself an impossible task. On reading through the book, however, one is impressed with the extraordinary thoroughness of the descriptions, and when the last page is reached it is realised that the author has achieved his object. The first 15 chapters are devoted to inorganic chemistry, together with a few references to physical chemistry. Chapter XVI. deals with the physiological importance of inorganic salts and their use in the body. The author points out that although inorganic salts have no food value, they are of the greatest importance in maintaining osmotic pressure, constant reaction, and normal growth and development. A series of photographs shows the effect of calcium and iodine starvation upon the growth of cattle. The remaining eight chapters

are devoted to organic and biological chemistry. The concluding chapter deals with urine and fæcal analysis. In his introduction, the author states that he intends the book for general students, but particularly for nurses. Although the book itself is excellent, we cannot help but comment upon its value to nurses. Surely there are much more important points for nurses to study than many of the sections contained in this volume. Those engaged in routine hospital work, in this country at least, know that the average nurse requires much training in measurement before she can be trusted to collecting an accurate 24 hours' specimen of urine, and it would seem rather ill-advised to attempt to teach her the ins and outs of the periodic law, or the theory of the action of indicators. A series of questions is appended to each chapter. One wonders what the answer of a qualified English nurse would be to a request to "Enumerate the main assumptions or hypotheses which make up the ionic theory."

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*Elementary Science for Nurses.* By W. F. LLOYD, B.A., M.B. Camb. With a Preface by Sir D'ARCY POWER, K.B.E., F.R.C.S. London: J. and A. Churchill. 1925. Pp. 95. 3*s.* 6*d.*

IN this little book the author deals with those aspects of physics and chemistry of interest to nurses. The treatment is adequate and concise. One of the most commendable points is that he gives a detailed account of the metric system. Although elementary, this is very necessary, since the majority of nurses find it difficult to translate minims and inches into metric units. Sir D'Arcy Power adds a charming introduction, in which he outlines the history of the nursing profession. The book should have a wide circulation.

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MARTIN ARROWSMITH.

By SINCLAIR LEWIS. London: Jonathan Cape. 1925. Pp. 480. 7*s.* 6*d.*

Martin Arrowsmith, student and later doctor of medicine, spends most of the earlier years of an adventurous life restlessly seeking to satisfy the conflicting needs of a mind too responsive to environment. It takes him nearly all the pages of Mr. Sinclair Lewis's great story to learn with pain that even for imperious youth, bred from pioneer stock, it is impossible to serve several gods and retain sanity. The story of his career, of the ideals he follows, examines, and discards, of the master he worships and twice betrays, must stir the memory of every medical man, for none can entirely have escaped such experiences.

Martin Arrowsmith divides his time no more neatly between work, drink, and love, than do certain of the more mediocre students of his year until he is inspired by the personality of Max Gottlieb, professor of bacteriology, with a bewildered enthusiasm for science. Gottlieb is a teacher worthy of adoration, as whose assistant, until other interests are allowed to encroach on his work, Martin tastes the delights of original research. A careless blunder—and perhaps a too severe rebuke—drives him in his touchy pride towards the clinical side of medicine, for which he is temperamentally unfitted. Partly out of pique, mainly to enable him to support as his wife a girl whose habit of giving inarticulate sympathy and demanding almost nothing in return enables her to endure him without unhappiness, he enters general practice, and boasts loudly that nothing could draw him from a life devoted to healing the sick to the dry monotony of a laboratory. Unfortunately, he lacks tact, discretion, and even judgment at crucial moments, as when he travels 50 vain miles to fetch antitoxin instead of doing a tracheotomy. It is obvious even to his arrogant youth that he is not making a success of his work. Fired by a new hero—at nearly every stage of his career, if no real hero is about Martin finds it necessary to invent one—he pursues with zest for a time the career of assistant medical officer of health. So long as his propagandist chief is about all goes reasonably well, but when the latter is translated to political life Martin fails to make good as his successor. He offends vested interests by hunting out carriers, annoys local practitioners by increasing the number of free clinics, and all the while his own lack of sobriety—this was before the days of prohibition—make him an easy prey to his enemies. Martin is favoured above ordinary men, for he gets a second chance to return, under Gottlieb, to the laboratory work which for years he has affected to despise. In this atmosphere neither his personal popularity nor his private life are of much moment, so long as his curiosity remains keen and he is able to test new hypotheses without bias. He works steadily for a period and takes well the disappointment of losing priority of a discovery of some importance. With an epidemic of bubonic plague in the West Indies comes the opportunity to test the curative power of a bacteriophage, the principle of which he had discovered independently of d'Herelle. With him travels his patient wife and one Sondelius, world-famed as a successful fighter against epidemics. In St. Hubert, the stricken island, comes the crucial test which Martin fails to pass. His creed bids him proceed, in the face of pity for the individual or care for the community, with the critical experiment sternly planned before his departure—to separate the afflicted into two batches, of which one only is to be given the phage. But when, after the death of Sondelius, who refuses treatment for himself because it is not freely offered to every sufferer, Martin's wife fails him for the first time by succumbing to the disease in his absence, he in turn fails to force himself to continue the experiment or to take any further interest in its progress. The plague subsides, and the expedition returns home to adulation carefully fostered by the institute which had financed it. Martin begs for a statistical investigation of his ill-kept notes before any conclusions are drawn, but his plea is suppressed and he has to bear congratulation on what he knows to have been a double betrayal. This is the crisis of his career. His subsequent marriage to a rich, charming widow and his ultimate abandonment of wife and child to embrace a secluded laboratory life appear almost an anti-climax. We cannot see him as a man who has at last learnt to know himself, but only as one who is too many-sided to find permanent satisfaction in any way of life open to him.

In an outline of the plan on which this, the best of Mr. Lewis's novels, is framed it is not attempted to do justice to the characters to whom he gives life. The tragic figure of Max Gottlieb is cast in a more heroic mould than Martin and is chiselled with a sure touch out of the essential rock of which men of science are made. Other studies are less finished, but all show an observation which penetrates through a man's spoken words to the thoughts which they are meant to hide. That these thoughts are often unworthy is not Mr. Lewis's fault; he must note what he sees, and those who fear to see it with him should avoid his books, for therein there is no escape. Relentlessly he analyses all that comes his way, gives few explanations, but allows his people to expose the conflicts from which they suffer in quick change from boastful self-satisfaction to humiliated confession. Mr. Lewis's own work has all the balance which his hero lacks; the scales are held fairly. The votaries of each branch of medical work, for example, are subjected on occasion to equally bitter if subtle criticism. If the men who hasten to claim therapeutic value for a new drug in the absence of adequate controls are held up to scorn, the pitiless inhumanity that will withhold from a sick person a remedy in order that a clean experiment may be recorded receives scant praise. Faked propaganda accompanying a "health week" is shown to be despicable enough, but life in a research institute is not pictured by contrast as a haven free from jealousy or importunity to premature publication. But if criticism is acute, appreciation is not lacking. The creeds of the healer,

of the propagandist, and of the searcher after truth are sacred in Mr. Lewis's otherwise ruthless hands, and the faithful who in the stress of life have lost a little confidence will be fortified by reading his book.

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ISLANDS: WEST INDIAN AND ÆGEAN.

By Sir ARTHUR SHIPLEY, F.R.S., Master of Christ's College, Cambridge. London: Martin Hopkinson and Co. 1924. Pp. 139. 6s.

Sir Arthur Shipley, who is chairman of the governing body of the Imperial College of Tropical Agriculture in Trinidad, went out in 1923 to help to lay the foundation-stone of that institution. The College and its work form a considerable part of the material for the early half of the book, but, as Sir Arthur Shipley says, "it deserves to be prominent, as it is the first attempt to found an institution devoted to teaching and research in tropical agriculture." Anyone who reads Sir Arthur Shipley's lecture on tropical agriculture, given at p. 18 in his book, will realise the importance of the subject. The lecture was delivered at Georgetown, British Guiana. It will be news to many of us that the value of the annual yield of diamonds in the colony is about £1,000,000. We are also glad to note that the Hoatzin "must not be shot," for that singularly interesting survival of the reptilian age is a bird well worth preserving. His work done, Sir Arthur Shipley took his ease in Mr. J. Pierpoint Morgan's yacht in the Ægean, and gives a pleasant account of what must have been a pleasant cruise. Santorini in particular must be a fascinating place, especially as vampires are abundant. We think that Sir Arthur Shipley is not quite just to the vampire, for he says that they have the power of bringing the dead to life and sending them forth to devour the living. According to the best authorities, a vampire has its origin from the suicide of a wicked man who forthwith becomes a vampire, rests in his grave by day, and comes out at night seeking victims who also die (apparently) but really become vampires in their turn. The burying the corpse of a suicide at the cross roads with a stake through the body, had its origin in the desire to prevent the birth of a vampire.

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TROPICAL DISEASES BULLETIN. Vol. XXII., Nos. 1 and 2. 1925.—The first two numbers of this journal for 1925 contain an interesting series of communications. The January number of the *Bulletin* is mainly concerned with recent literature on dysentery, amœbiasis, and malaria. The two former subjects, comprising 62 papers, are summarised by P. H. Manson-Bahr, while Clayton Lane has reviewed an almost equal number of references to malaria. A. D. Bigland contributes a section upon native dietaries, and A. G. Bagshawe reviews papers on miscellaneous subjects.—The February number contains the third instalment of a review on Medical Helminthology by R. T. Leiper. Other subjects—beri-beri, scurvy, undulant and abortus fevers, Rocky Mountain fever, Japanese river fever, sandfly, dengue, and other fevers—are summarised by P. W. Bassett-Smith. The sleeping sickness section, by Warrington Yorke, completes the number.

## NEW LUNACY ORDERS.

UNDER the title of "Statutory Rules and Orders, 1925, Lunacy, England," two important documents have recently been issued by the Commissioners of the Board of Control. The first of these consists of certain rules under the Lunacy Acts of 1890 to 1911, and is principally concerned with the way in which all books and records are to be kept. Details are set out with regard to the register of deaths, of discharges and transfers, of mechanical restraint and seclusion, and of boarders, along with the form in which nurses' reports and clinical records are to be kept. It is quite definitely set out who is to keep the various registers and who is responsible for the sending out of the notices on reception and on certain subsequent occasions. The periodical returns required by the Board of Control are also clearly specified, and the principal regulations with regard to licences, alteration in premises, plans of mental hospitals, &c., are described. The greater part of this publication,[1] however, consists of a schedule containing 30 forms indicating the manner in which the various registers are to be kept and skeleton designs for the report books and notice forms. The second of these two documents is a regulation, dated Jan. 7th, 1925, and deals with the mechanical restraint of lunatics.[2] Under Section 40 of the Lunacy Act of 1890 it is laid down that "mechanical means of bodily restraint shall not be applied to any lunatic unless the restraint is necessary for purposes of surgical and medical treatment, or to prevent the lunatic from injuring himself or others." Other clauses in this section refer to the records which must be kept of such restraint, and it is stated that "in the application of this section 'mechanical means' shall be such instruments and appliances as the Commissioners may, by regulations to be made from time to time, determine." This new regulation sets out the various instruments and appliances which may be used for this purpose. These are as follows.

(1) A jacket or dress, made of strong linen or some other strong material (*a*) laced or buttoned down the back having long outside sleeves fastened to the dress only at the shoulders, with closed ends to which tapes may be attached for tying behind the back when the arms have been folded across the chest; or (*b*) of some other pattern approved under the seal of the Board, a sample bearing the seal of the Board being in this case kept at the institution or workhouse for inspection.

2. Gloves without fingers, so fastened at the wrists that they cannot be removed by the wearer, and made of linen, leather (chamois or other), or some strong material padded or otherwise.

3. Sheets or towels, when tied and fastened to the sides or ends of a bed or to other objects.

4. If, in the opinion of the medical officer or medical practitioner who gives the certificate required by this section, some other mechanical means of bodily restraint is necessary in a particular case where the circumstances are exceptional, such means may be used with the previous sanction of the Board for such period as they may authorise.

It is pointed out that special supervision will be required in all these cases save in the form 2. The regulation goes on to describe certain procedures which are not to be considered as mechanical means of restraint but of which records must be kept. These include the continuous bath, the dry and wet pack, splints and bandages "used in accordance with recognised surgical practice," gloves so fastened as to be removable by the wearer, sheets or towels merely held and not fastened, trays or rails fastened in front of the chairs used by idiot children or the crippled and infirm. The Board are very anxious to make it clear in the concluding paragraphs of this regulation that they have by no means "given any greater countenance to the employment of this form of treatment than they have hitherto shown," and they urge that "the application of mechanical restraint should always be restricted within the narrowest possible limits, that it should not be long continued without intermission, and that it should be dispensed with immediately it has effected the purpose for which it was employed." This regulation comes into force on April 1st, 1925, and supersedes a regulation dated June 25th, 1913.

[1] Statutory Rules and Orders, 1925, No. 75. H.M. Stationery Office. 8*d*.
[2] Statutory Rules and Orders, 1925, No. 76. H.M. Stationery Office. 1*d*.

# THE LANCET.

*LONDON: SATURDAY, MARCH 14, 1925.*


## HEALTH STATISTICS IN THE MERCANTILE MARINE.

RECENTLY the President of the Board of Trade was asked in Parliament, by Mr. B. SMITH, whether he was in a position to prepare and supply statistics regarding health, as apart from mortality, in the Mercantile Marine service; whether there was a medical officer in his office and a special department dealing with problems of health and diseases in the service; whether the classification of diseases causing death issued by the Board of Trade could be brought into line with the more scientific classification adopted in the Royal Navy, and whether further information could be given regarding the population concerned, so that death-rates might be calculated. Sir PHILIP CUNLIFFE-LISTER replied that questions relating to the health and diseases of merchant seamen are dealt with by the Mercantile Marine Department of the Board of Trade in consultation with the Ministry of Health; that the Mercantile Marine Department has a staff of qualified medical officers; and that the question of modifying the classification of diseases in the statistics of the deaths of seamen issued by the Board of Trade is under consideration. As regards the preparation of statistics relating to the health, apart from the mortality, of merchant seamen, if the kind of statistics required were more precisely indicated, he would consider whether anything could be done. The Prime Minister, asked whether he would consider the transfer from the Board of Trade to the Ministry of Health of all questions affecting the health of seamen, said that the change would require legislation; he did not think the proposal necessary or desirable, since the Board of Trade was in close touch with the Ministry of Health on all matters affecting the health of seamen.

The answers of the President of the Board of Trade showed little appreciation of the complaints made against his department. If questions concerning the health of merchant seamen are dealt with by the Mercantile Marine Department of the Board of Trade in consultation with the Ministry of Health, are we to consider that the Ministry of Health approves of the grouping together, in the list of deaths, of tubercle and cancer as "constitutional diseases"? Again, though the Mercantile Marine Department may have a staff of qualified medical officers (including medical emigration inspectors), it does not follow that they are concerned with the health of seamen; no published evidence of the work of such officers appears. It is, at any rate, satisfactory to learn that the department is in close touch with the Ministry of Health, for this association should in future years increase our knowledge of the health of merchant seamen. What information we have at present on this subject comes from Part II. of the Supplement to the Sixty-fifth Annual Report of the Registrar-General, issued in 1908. Here, on p. 28, is a statement of the deaths of "occupied" merchant seamen in the three years 1900–02, by groups of ages, with a calculation of the death-rates for each age-group. For reasons stated in the supplement, no death-rate for the whole industry appears, but comparative mortality figures show that for every 100 deaths among "occupied males" in England and Wales, there were 167 among merchant seamen, the figures for phthisis being 100 to 142, for pneumonia 100 to 153, and for accidents 100 to 458. No further table of this description has since been published, but unless conditions have greatly changed it would appear that to become a merchant seaman is to join one of the most unhealthy of occupations. Apart from the annual report of the Chief Medical Officer of the Ministry of Health, whose notes on the diseases of merchant seamen mostly discuss those diseases which are of international importance, we must go to the Board of Trade for what information there is to be had. In the annual "Return of Shipping Casualties to Seamen and Deaths on Vessels Registered in the U.K.," there is given in Table VI. the deaths by accidents, and in Table VII. the deaths by disease which have been reported during the year. The causes of death are not in every case certified by medical practitioners, but no other figures are available, and they are, we admit, useful for comparison with each other, since the errors may be presumed to work in the same direction from year to year. The records are by no means complete; it is not stated among how many seamen the deaths have occurred, and there is no figure in the returns by the help of which anyone could find out, however roughly, whether seamen had been, in any year, more or less healthy than in earlier years. 1921 was a Census year, and a Census of merchant seamen in British ships, at home and abroad, was taken on June 19th, showing: British 96,072, foreign 11,598, Lascars 44,241, total 151,911. The Board of Trade published these figures in 1923; but they are not included in the return for 1921, issued in 1924. Indeed, the returns seem to be designed on no definite plan, and to be compiled without any idea of what a useful medical return should be. In future it would surely be desirable, when the Board of Trade has collected from all over the world the figures of deaths, to forward them at once to the Registrar-General for publication; under Section 5 of the Census Act, 1920, new legislation would hardly seem to be necessary. The Registrar-General would group the diseases according to current methods instead of using a classification obsolete in all other Government departments except the Board of Trade.

The present inadequate presentation of the only statistics we have of the health of merchant seamen is, to say the least, unkind to the men of the merchant service. It is of urgent importance that more attention should be given to the deaths in this service. It employs some hundred thousand British seamen, most of them under 30, for the most part without any doctor to watch for and correct unfavourable conditions in their working lives. It is unseemly that the well-being of a group of men on whose activities our Empire so largely depends should be thus neglected.

## THE SANOCRYSIN TREATMENT OF TUBERCULOSIS.

IN a recent issue we dealt, from a biochemical aspect, with the salt sodium aurothiosulphate, isolated by Prof. MOLLGAARD and now being used in the treatment of pulmonary tuberculosis. The March number of *Tubercle* contains an original article on the clinical aspect of this treatment by Dr. J. GRAVESEN, medical superintendent of Vejlefjord Sanatorium, Denmark. The article in question consists of a discussion of the toxicity and action of the substance, with the special indications for the selection of cases,

a description of complications met with, and some preliminary clinical results. With regard to toxicity, Dr. GRAVESEN is careful to point out that there may be difficulty in distinguishing between those clinical signs and symptoms which are due to the metallic poisoning of the salt and those which are due to circulating toxins liberated by the supposed bactericidal action of the gold salt on the tubercle bacillus. This difficulty of interpreting the signs of toxicity of the salt is apparently a real one, and while admitting that some of the earlier signs are probably "biotoxic," to use his own phrase, the author is careful to point out that the later appearance of albuminuria, digestive disturbance, metallic taste in the mouth, and desquamative dermatitis and stomatitis are to be credited to the metallic poison action of the salt. Dr. GRAVESEN has, however, no doubt that sanocrysin exerts a specific action upon tuberculous subjects in therapeutic doses, though we are not quite clear in what sense he uses the word specific. As an antidote against toxæmia an anti-serum is used, prepared from animals immunised with diaplyte tubercle vaccine. It is here that one of the serious difficulties of the treatment would appear to arise, for although the serum is stated by Dr. GRAVESEN to have certain protecting power it does not adequately neutralise the toxæmia, and as he points out, much more work is necessary on this side of the question before sanocrysin can be generally applied to the treatment of tuberculosis. Anti-sera in this disease have never been found satisfactory from a clinical point of view. At least three different anti-sera appear, so far, to have been used in connexion with sanocrysin experiments—namely, the serum of a spontaneously infected animal, the serum of an animal immunised with dead bacilli, and, finally, a serum of an animal immunised with defatted bacilli. In some cases the administration of an anti-serum has been tried before sanocrysin treatment. A further difficulty arising from the danger of toxæmia is found in the choice of suitable cases. In discussing this matter the writer makes use of the classification of RANKE, which is not commonly used in clinical medicine in this country. Thus, he divides his cases into exudative and proliferative. The former are acute toxic cases in which the pathological picture is presumed to be that of acute exudation and tissue destruction; the latter are chronic cases with new-formed tuberculous granulomata and chronic proliferation of fibrous tissue. The recent exudative types are considered much more suitable for sanocrysin treatment than the chronic proliferative cases. In other words, the more fibrosis the less the probability of effecting a good result. From this it would appear, clinically, that the chronic case with large thick-walled cavity, which is a common type of case met with, does not react well to treatment. Cachexia also is a contra-indication. Pyrexia, on the other hand, is not necessarily so, since it may be merely an outward and visible sign of what Dr. GRAVESEN calls "the recent exudative type."

As is customary with all new remedies of this kind, the question of dosage is difficult to determine, and Dr. GRAVESEN considers that no general rule can be laid down, but that each case must be judged on its merits. This is an obviously sound old rule. In serious cases the initial dose used has been as low as 12·5 cg., whilst the maximum dose in favourable cases has been 150 cg. The interval between doses varies from two to six days according to the general condition of the patient and the effect of the drug, the ultimate aim being the administration of a full dose without recourse to the protective action of serum. The complications noted are: general reactions of fever, anorexia, nausea, diarrhœa, albuminuria, and focal reactions leading to temporary or permanent reactivation of the lesion. Glands also may temporarily increase in size and tenderness, and the author records one case which was followed by abdominal tuberculosis and a pleural effusion. Some of these disturbing reactions appear to be not unlike those which we used to get in the early days of the tuberculin era when large doses were given. To these must be added signs of metallic poisoning, which may be counteracted by careful attention to the mouth and teeth, and the omission of any drugs such as bromides or arsenic leading to harmful combination with the salt. It is apparent, then, that the treatment can only be used with great care and watchfulness, especially in view of the difficulty in deciding whether the toxic symptoms produced are due to the effect of liberated toxins or to metallic poisoning. At this early stage Dr. GRAVESEN is guarded in his estimate of results. He gives a short table summarising these in 44 cases Of these, 22 he considers negative, the patients having remained stationary, become worse, or died; and 22 he regards as positive, with apparent cure, much improvement, or improvement. He further suggests that the treatment may offer some scope in combination with other special forms of treatment, such as artificial pneumothorax or thoracoplasty. To quote his own words, the writer sums up by saying: "I am convinced that we have in sanocrysin a real chemo-specific with an action, hitherto unknown in tuberculosis, *upon certain suitably selected cases.*" The italics are our own, since they appear to us to qualify materially the use of the word chemo-specific.

It is interesting to compare these results with those given in the book recently published by MOLLGAARD and his co-workers on the Chemotherapy of Tuberculosis. Here G. E. PERMIN reported 15 cases of pulmonary tuberculosis, of whom six died; whilst of the remaining nine, five were unchanged and four seemed to be undoubtedly improved. K. SECHER recorded 15 cases of tuberculous pleurisy, 14 of whom did well, whilst the fifteenth subsequently died of tuberculous peritonitis. He also gave details of two cases of tuberculous peritonitis, one of whom did well and the other died. In children V. BIE, K. SECHER, and C. H. WÜRTZEN reported six cases of tuberculous adenitis, all of whom became free of symptoms; and 16 cases of pulmonary tuberculosis, 12 becoming free of symptoms, 1 improved, 2 unimproved, and 1 worse. OLE CHIEVITZ recorded a series of cases of surgical tuberculosis with the following results: 35 cases were treated; 3 were healed, 3 improved, 27 unimproved, and 2 became worse. K. SECHER collected a series of cases of pulmonary tuberculosis. Of these, 9 early cases without bacilli and 3 early cases with bacilli all improved. Two more advanced cases became free from symptoms and 7 improved. In 10 cases treatment was abandoned, whilst of three cases of miliary tuberculosis of the lungs one was reported as well, the second improved, and the third abandoned. Nine pulmonary cases were reported as having died after treatment. Finally, there was an extensive series of cases by C. H. WÜRTZEN, the results of which were not tabulated, though the cases were reported in full. Throughout the book the large numbers of cases recorded were quoted in the fullest and frankest manner, but the analysis of results is not always easy to follow, presumably because the authors were anxious, at this early stage, to present plain facts rather than hasty deductions.

It is clear that there are many issues raised by sanocrysin treatment which need to be cleared up before a final judgment can be offered, and it is

important that the treatment should not be boomed as a cure for tuberculosis until these issues have been carefully worked out. In the first place, the question of toxicity is a complicated one. Some of the toxic symptoms produced are certainly those of metallic poisoning; others which are claimed to be a result of liberation of tubercle toxin are perhaps more difficult to explain, whilst there is yet a third factor in toxicity—namely, the so-called tuberculin shock which has been described in a few cases. Careful experiments are also needed on such questions as the accumulation of the drug in the tissues, especially in such organs as the liver, spleen, kidneys, and lungs. It has been found, for example, in previous gold salt experiments, that this accumulation may take place far in excess of the concentration needed to destroy the tubercle bacillus in vitro, without satisfactory clinical results being achieved. Side by side with these considerations there is the question of the rate of elimination of the drug by the usual channels. All these questions must have an important bearing on dosage and the spacing of doses. Finally, the protective use of an anti-serum involves us in a whole set of new problems. Bacteriologists have hitherto been profoundly dissatisfied with the anti-sera advocated in the treatment of tuberculosis, and the possibility of combining an anti-serum with a chemo-therapeutic inoculation is certain to provoke much discussion and experiment. From the evidence so far published we do not feel prepared to agree with Dr. GRAVESEN in speaking of sanocrysin as a chemo-specific for the treatment of tuberculosis, though we are well aware that this term possesses many shades of meaning; perhaps for this very reason it would be better at the present stage to avoid the use of the term.

## DOMESTIC HELP AND NATIONAL WELFARE.

IN a complex society such as that in which we have our being it is difficult to forecast the reverberations which may be aroused elsewhere by a sudden alteration in any one part of the economic fabric. When the principle of relief in money to the unemployed was established to meet the conditions produced by the trade depression of 1919, few could have foreseen that such a step would have any but beneficial results upon the present health and future well-being of the nation as a whole. As matters are now shaping the reverse promises to be the case. According to the most recently published figures from the Ministry of Labour, some 230,000 women and 50,000 girls are at present in receipt of the "dole." That is to say, over a quarter of a million women, many of whom under other conditions would cheerfully be lending their aid to the housewives of the nation, are now definitely withdrawn from the labour market in so far as domestic service is concerned. That such a state of affairs should result in a deficiency of domestic help is obviously inevitable. That this should react upon the present health and future well-being of the nation is not so immediately obvious—in fact, by some of the more short-sighted Members of the late Parliament it was publicly pronounced to be a matter for gratulation that the mothers and wives of this country were now having to fend for themselves. Two immediate effects, however, are resulting from this shortage of domestic help, both so plainly and so universally evident in the life of the people that the tendency has been rather to refer them to that peculiar category of phenomena known as "signs of the times" than to seek for their obvious explanations. The two domestic activities most consuming of time and labour are the bearing and nurture of children and the preparation of food; in the absence of domestic help it is in these two directions that that portion of the population which is accustomed to depend upon its own efforts for its subsistence has had to curtail its activities.

The fall in the birth-rate of what may be spoken of as the self-supporting class in contradistinction to the State-aided, is a phenomenon so striking that it has attracted the attention of sociologists and moralists alike. Many factors are undoubtedly at work to produce it, but five minutes intimate conversation with any young married couple of the self-supporting class will reveal the fact that one very definite reason for this curtailment of the size of the family is the difficulty, under present conditions, of securing that domestic help which is necessary for the care of a large family of young children. There is a feeling among a certain class of doctrinaires that the family is a unit and should in a properly organised state of society be entirely self-contained. Oddly enough, the holders of this individualistic dogma are to be found among those most favourable to communal effort in other directions. It is sufficient to point out that the "family," consisting of husband, wife, and children, never has, and never in the nature of things can be, an entirely independent unit. The bearing of a child may roughly be regarded as removing a woman for six months from the efficient performance of other domestic activities; the plunging of the mother into the full tide of household life at an earlier date can only result in harm to herself or her offspring. In that primitive state of society which may roughly be described as patriarchal, the influence of which even in the industrialised portions of the world still persists, the child-bearing woman had the assistance of a numerous retinue of aunts, sisters, and other more distant female relatives not immediately concerned in the same business, not to mention in an earlier world slaves and other female retainers bond and free. With the gradual disappearance of the patriarchal system and the establishment of the custom of an immediate departure from the parental roof of the newly-married couple reliance had come to be placed upon paid servants. Now that these are not forthcoming the only solution that has so far presented itself is severe limitation of the size of the family. The inevitable decrease in the self-supporting portion of the population, with an accompanying proportional increase of that section accustomed to look to the State for maintenance, is a prospect hardly to be faced with equanimity. Intimately connected also with the shortage of domestic help is the problem of combating the harm done by the adulteration of food. Attention has recently been drawn to the danger of preservatives in food. From no standpoint save that of economy of time and labour can any form of preserved food be regarded as equal in value to the freshly prepared article, and presumably no one would eat it in preference to fresh food. None the less, the consumption of preserved comestibles of all sorts shows a steady increase. It is hard to believe that this increase is due to any large extent to a gross growth of laziness in the general population; there can be little doubt but that the principal factor is the difficulty of procuring help in the kitchen.

The process of adaptation to the new social conditions has yet hardly commenced and it is difficult to see in what direction it will proceed. The obvious solution would appear to be a relaxation of the bonds of individualism and the development of a communal system of welfare centres, creches, kitchens, and so forth, for the benefit of those who are able and willing to pay for them, on similar lines to the system now at the disposal of those who are served gratuitously.

# Annotations.

"Ne quid nimis."

## THE SALARY OF A SCHOOL MEDICAL OFFICER.

THE West Riding County Council are advertising in the daily newspapers for assistant school medical officers at a commencing salary of £500 per annum. The terms are below those arrived at by the British Medical Association and the Society of Medical Officers of Health, at whose instance, supported by THE LANCET, local authorities have been advised for some time that the commencing salary for a whole-time assistant medical officer in a public health department should be £600. Recently, by invitation of the Ministry of Health, representatives of the B.M.A. and of the Society of M.O.H.'s met delegates from the bodies representing local authorities to discuss the matter of salaries in the public health service. As one outcome of the negotiations, the Ministry advised the County Councils Association, the Association of Municipal Corporations and kindred bodies that the £600 minimum might be accepted as not unreasonable for assistant medical officers with adequate qualifications and experience, and it has been postulated that candidates for these posts should have had at least three years' practical experience. Seeing that over 80 appointments have been filled on the £600 basis during the last 12 months, it was thought that there would be no further dispute in regard to appointments in this category. The West Riding advertisement states that the school medical officers appointed at £500 will receive annual increments of £25 up to £650, but this method of advancement has not the practical advantages that it wears, for having reached the maximum the medical officer will have only remote prospects of promotion, there being but few administrative posts in the school medical service. Candidates who may be tempted to accept these appointments for the sake of their immediate convenience should look ahead, visaging a time when they may be in a less favourable position for choosing a more profitable branch of practice, and when their domestic obligations may be increased. We hope that it is not too late for the West Riding County Council to revise the terms of their advertisement, so that medical men and women of good standing and varied experience may feel justified in applying for the posts, for they must realise the importance of securing school medical officers who can command the confidence, not only of the education authority, but of the private practitioners with whom their work brings them in daily contact.

## AVIATION AND MEDICINE.

AT a meeting of the Royal Aeronautical Society on Thursday, March 5th, Lieut.-Colonel C. B. Heald, Medical Adviser to the Department of Civil Aviation, delivered a lecture on Some Medical Aspects of Air Transport. He pointed out that the medical questions of aviation were of interest not only to those directly concerned with flying—pilots, insurance companies, and the air-travelling public, and to the whole medical profession—but to physicists generally; for in aviation, he said, we are dealing for the first time, so far as the history of mankind reveals, with life and work in three dimensions, and we are learning previously unknown facts about the mental and physical make-up of people subjected to strain and stress in a new environment. The medical work of civil aviation is not confined to the routine examination of pilots, although this naturally forms an important part of such work, but it has to take into consideration all matters concerning the general life of those associated with civil air transport, and all the general questions of hygiene and health organisation that help to build up comfortable and efficient services. Colonel Heald gave a detailed description, illustrated by lantern slides, of tests employed on the medical examination of the pilot, and dealt at some length with the more general aspects of the career of the airman and the factors which influence his health and lasting powers. From these considerations some important facts emerge, showing that the estimation of complete fitness in flying men has given to clinical medicine a new viewpoint. And at this point the lecturer concluded that the measurement of physical conditions, as distinct from the detection of disease, demands a new technique, when results of a value as yet unreckoned may be clear. Colonel Heald believes that this new technique for estimating physical efficiency—in what manner each system of a particular individual will endure and function under stress and strain for that individual—will come, directly or indirectly, from our improving knowledge of electrical phenomena and the ultimate composition of matter, the outstanding features in the progress of medicine to-day being chiefly electrical. Colonel Heald's prophetic vision will not be dismissed as a baseless flight of fancy because a recent demonstration before two sections of the Royal Society of Medicine made clear only one thing—namely, that the subject was unready yet to leave the physical laboratory. Medicine, grappling with the problem of deciding the fitness of a man to adapt himself to a new element, has found that the criterions of health may not lie wholly in the stethoscope and sphygmomanometer, and Colonel Heald is logical when he says: "It would surely, therefore, be fitting if through this new science of aviation we should find our feet set on a new pathway, leading possibly to a definite understanding of those forces that Sir Oliver Lodge, Prof. Richet, and the late Sir James Mackenzie have already sensed."

## BONE METASTASES IN CARCINOMA OF THE BREAST.

THE vagaries of the dissemination of carcinoma are difficult to explain on any simple hypothesis, and it would seem that almost necessarily there must exist a number of causal agents for malignant disease. Secondary growths in bone are fairly common when the primary lesion is in the breast, the prostate, or the thyroid, but very rare when for instance it affects the tongue. Again, one case of breast cancer will produce widespread secondary nodules in its neighbourhood and in the axillary glands, whilst another remaining quite small itself will give rise to numerous remote metastases. Sir George T. Beatson, in the current number of the *British Journal of Surgery* (1925, xii., 473), reports a case of carcinoma of the breast in which there were multiple bone lesions. The woman lived for six years with the carcinoma before symptoms sufficiently severe to worry her appeared. Then she began to suffer from pain in one leg and a loss of power of the arm on the affected side. Pathological fracture of the clavicle, femur, and humerus occurred before her death about one year later. Post mortem were found metastases in all the long bones of the limbs, the clavicles, and certain of the ribs and vertebræ. There were numerous growths in the phalanges of the hands and also in one of the metatarsal bones. The interest in the case lies in the demonstrated likelihood that these secondary growths were conveyed from the breast by the blood-stream, for permeation of the lymphatics could scarcely be invoked to account for the metastases in the foot. Another curious feature was the fact that the sternum in the direct permeation path was quite free from growth. Additional evidence of blood-stream infection was the state of the lungs through which of necessity all emboli must pass to reach the systemic circulation, for they were found to be studded all over with small metastases. It was also observed that the growths in the liver seemed to have originated in the deep parts of that organ and not in the periphery, as the permeation hypothesis of spread would demand. Union of the

fractured clavicle occurred, but this is not real evidence of repair in a malignant growth. Patients who have suffered a pathological fracture of the femur secondary to breast cancer have even been known to get union and walk for a time. The simplest explanation is that only a portion of the thickness of the bone was destroyed by the growth. The remaining unaffected area, after fracture, was able to throw out so much callus as to form a support of weight bearing capacity. It has been frequently observed that bone metastases occur in cases where the original growth is quite small, so it would be of great practical importance to be able to ascertain whether the bones are affected or not when the patient seeks surgical aid. According to A. Piney[1] certain characteristic blood changes occur when the growth invades the bone-marrow, by which this invasion can be recognised. Whilst this statement is true in some cases, it does not seem to be so invariably; the characteristic blood picture was absent in the case under discussion. It is, however, important on occasion to make the blood examination, for positive evidence might show that operative interference would be useless.

## THE PRESENT POSITION OF THE DENTAL PROFESSION IN ITALY.

WE have received from Dr. F. Montuschi, dental surgeon to the Italian Hospital, a report on the recent legislation in Italy to regulate the practice of dentistry. The Royal Decree of Oct. 16th, 1924, made the possession of a degree in medicine and surgery compulsory for the practice of dentistry. This compulsion dates back 34 years from the Boselli decree, but subsequently all those who had practised dentistry by virtue of minor diplomas granted by various universities continued to do so and, as is the case now in England, many who had practised without a diploma were allowed to continue after an examination in the subject. The Boselli decree did not become law until 1912 with the concurrence of both branches of the legislature. There was, however, in Italy an absence of good schools for the teaching of dentistry and such medical men as wished to practise it conscientiously were obliged to go abroad. Many of them came to our Royal Dental Hospital until the foundation of three dental institutes at Milan, Bologna, and Florence, each of which has a curriculum of one year's duration. In Rome a small but influential group continued to ask for a doctorate in dentistry independent of medicine and surgery, somewhat after the type of the American D.D.S. They wanted the medical student after his fourth year to relinquish his studies and join the school of dentistry and dental mechanics which was to be established in Rome, and after a curriculum of two years to pass an examination which would confer on him a doctorate in dentistry and dental prosthesis. These ideas found sympathy from the Minister of Public Instruction in Signor Mussolini's Cabinet, who, owing to the full powers conceded by Parliament, secured at the end of 1923 the approval of the Council of Ministers for a decree establishing a national school of dentistry and dental mechanics in Rome; this meant the institution of a degree in these subjects at the end of the prescribed course of study and the passing of a special examination. This decree aroused violent opposition, as medical opinion had pronounced in favour of a compulsory degree in medicine and surgery for dentists. Augosto Murri wrote expressing his views as to the indivisibility of dentistry and general medicine and advocating that the former must be considered as belonging to the same category as other medical specialties, and a few months later the Minister who had approved of the decree was replaced by Senator Casati; then the Mussolini Cabinet rescinded the decree and substituted a new one which re-affirmed the principle of a compulsory degree in medicine and surgery for the practice of dentistry. The new decree stiffens the statute of March 31st, 1912, since it not only requires all dentists to be previously qualified in medicine and surgery, but enjoins upon all future medical practitioners the undergoing of a practical test in dentistry and mechanics to enable them to practise the art of medicine. It is not that the medical graduates of the universities, to which the new statute allows freedom in regulating their special studies, will all be finished dentists, but they will at least know enough to guide them in investigating each case and adopting proper treatment, especially in rural districts where there is no expert dentist.

In Italy the future medical practitioner will have a knowledge of the fundamentals of dental science, as he has of ophthalmology and dermatology. For dentists in the future—i.e., medical specialists in dentistry and prosthesis—the general university reform actuated by Gentile efficiently provides in the same way as it does for all other specialists. This measure enjoins that no one can arrogate to himself the title of "specialist" in any branch of medicine without having acquired the relative diploma granted by each university. Anyone who does not conform to this rule will be suspended from practising, so that in the near future the public will be able to distinguish the true from the false specialist. In fact, this same reform allows each university to establish special post-graduate schools in any subject, equipped for granting, after examination, specialists' diplomas. As far as dentistry is concerned, there already exist in Italy the three dental schools of Milan, Bologna, and Florence with a yearly curriculum; and now, in order to march with the times, these have profited by the present didactic legislation and have biennial courses, while other schools will of necessity spring up. Italy will thus be the first among progressive nations to require all medical practitioners to know at least the principles of dentistry and dental mechanics and to insist that all who practise other medico-chirurgical specialties shall, after having obtained their degree, pass a special examination which will be proof of a real knowledge of the specialty they intend to practise.

## THE EYES IN HOT CLIMATES.

IN a paper on Ophthalmology in Egypt, read at a recent meeting of the Section of Tropical Medicine of the Royal Society of Medicine, Mr. A. F. MacCallan, at one time Director of the Egyptian Government Ophthalmic Hospitals, gave some valuable instruction on the care of the eyes in hot climates. While fatigue, ill-health, and worry bring out latent defects in the eyes in any country, a hot climate causes greater fatigue than a temperate one, and this fatigue, he pointed out, may lead to fatigue-indigestion with resulting physical depression. Worry, whether of official or of private origin, similarly may cause ill-health. Under these conditons he found that trifling errors of refraction, or slight degrees of heterophoria, exerted effects quite out of proportion to their actual severity, and he emphasised the importance of careful correction of these errors, generally under a cycloplegic such as homatropine. In a highly sensitive patient, whose nerves were constantly being jarred by physical or mental discomforts, the correction of a very small degree of astigmatism might make all the difference between happiness and misery. In a country such as Egypt, the healthy emmetropic eye of the European becomes painfully affected by the sun's glare in the summer when motoring or riding along dusty roads or over the desert. It is the heat rays from the red end of the spectrum which cause this. To prevent the effects of glare, Mr. MacCallan advises the wearing of protective goggles of Crookes B or B 2 material; but if discomfort is complained of the refraction of the patient should be verified under a cycloplegic. There are, he states, other varieties of protective glasses, which theoretically are more absorbent of the heat rays than Crookes glasses, such as peacock

[1] Brit. Jour. Surg., 1922, x., 235.

blue, Fieuzal, and amber, but in his own experience of a large number of cases he found that ordinary glass in which was included, if necessary, a very small ametropic correction, was all that was required. Sun, dust, and wind might also cause pinguecula and pterygium. In dusty seasons it is most advisable to wash from the eyelids the dust which collects there and which may contain septic material. This should be done three times a day. In many cases he found this simple precaution sufficient to prevent constantly recurring attacks of conjunctivitis.

## SURGICAL TREATMENT CENTRES.

THE medical profession and the lay public are alike apt to associate the Ministry of Pensions with medical boards and claims and awards rather than with any idea of treatment of war disabilities. The article which we publish in another column by Dr. C. V. Mackay and Mr. D. D. Pinnock on the treatment of war injuries at special surgical clinics, dealing with this lesser known but very important side of the Ministry's activities, shows that valuable work is still being done up and down the country in the treatment of those disabling effects of the war which in so many cases continued for a long time after the crippled men left the services. The organisation and work of these special clinics are clearly set out. It will be seen that the whole scheme is closely linked up with the surgical hospitals of the Ministry of Pensions and with the centres for the provision of surgical appliances and artificial limbs. Existing facilities at civil hospitals have also been utilised, and it will be seen that every encouragement is given to pensioners to make use of the treatment thus offered by the payment of travelling expenses and of allowances for time lost from work on account of treatment. Apart from the clinics at civil and Ministry hospitals, surgical treatment centres have been established in various parts of the country at the following places :—

*Northern Region.*—Bishop Auckland, Bradford, Carlisle, Hull, Stockton, Sunderland.
*North-Western Region.*—Birkenhead, Manchester.
*Midlands Region.*—Birmingham, Coventry, Nottingham.
*South-Western Region.*—Bristol, Exeter.
*London Region.*—Brighton, Westminster, Camberwell, Tooting, Portsmouth, Reading, Southampton.
*Scotland Region.*—Aberdeen, Dundee, Edinburgh, Glasgow, Kirkcaldy, Stirling.
*Wales Region.*—Bridgend, Pontypridd, Wrexham.

The majority of these clinics deal also with the supply of surgical boots and appliances. In addition to these centres, the British Red Cross Society has also established "Curative Posts," for the benefit of ex-Servi e men, which are recogni ed by the Ministry of Pensions. For example, in the county of Surrey alone five were established by the county branch of the British Red Cross in 1919. The posts are fully equipped with electrical apparatus, and in some cases X ray photographs can be taken. The voluntary staff consists of an officer in charge, an almoner, registrar and treasurer, and V.A.D. helpers. The professional staff consists of a medical officer, one or more trained nurses, and a varying number of masseurs and masseuses according to the number of cases on the books. Since the diminution in the number of ex-Service patients the posts have been used for civilians, to the great benefit of the inhabitants of the various towns and villages concerned. The payments from civilian patients are supposed to vary from 2*s.* 6*d.* to 10*s.* 6*d.*, the latter for several treatments combined, but unfortunately all patients are not able to afford even the minimum charge, and in these cases various expedients have to be resorted to; under certain conditions the funds of the branch are used to supplement the payments. Two of the posts, Woking and Kingston, have also opened orthopædic clinics for children under the care of an orthopædic s rgeon from a London hospital who makes periodical visits. These are said to be a great success, and the medical officer of health reports that the Surrey County Council consider it to be one of the most satisfactory services in the county. A good number of children from the London hospitals are treated in the Surrey posts, some of these attending their own surgeons at the London hospitals. The County of London branch established similar clinics in 1919 and at one time there were 13 such treatment centres for disabled ex-Service men in various parts of London. With the decrease in the number of men requiring treatment certain of these centres have been closed and only five remained at the end of 1924. In February, 1922, a civilian clinic was opened in Kensington to meet the needs of those who are unable to afford the full fees obtaining for massage and electrical treatment. A maximum fee of 5*s.* per treatment is charged, the fees graduating down to 1*s.* 3*d.* per treatment. Towards the end of 1924 a similar clinic was opened in Hackney. From this brief summary it will be seen that the treatment aspect of war disabilities is receiving the consideration it warrants from both voluntary and official bodies, and the extension of the Red Cross Society's activities to civilian patients forms an important and interesting development.

## THE ANATOMY OF TWINS.

TWIN bodies of the uniovular type do not often come to the anatomist for examination. Hence not much is known with certainty or conclusive definite ness about the relations existing between the twins of this form, and the views advanced from time to time about the cause of twinning are little more than assumptions adopted to fill the void of ignorance on the subject. The theory of polyspermy as a cause is an example of such assumption; it is probably quite unsound and untenable from the nuclear and cytological point of view, and it can be pointed out that, in animals in which polyspermy normally or frequently occurs, the additional spermatozoa are non-effective to all appearance, while in a case like that of the armadillo, in which normally more than one embryo is formed from a single ovum, there does not seem to be polyspermy. All that can be said with certainty is that the uniovular twin is an end-product of the process of dichotomy affecting the embryonic contents of the developing ovum, and the cause of its occurrence will be known when the explanation and meaning of dichotomy is understood. The result of dichotomy may be incomplete or complete division, and, in its axial form, ranges from the parasitic fœtus and other monstrosities, through the partially attached individuals to the completely separated twins. In this last case the embryonic division may stop at this point, leaving the amnion undivided, or may even involve this, so that each individual possesses his or her own amnion. It is theoretically conceivable that the dichotomous process, beginning at the earliest possible moment, might lead to complete division of the whole ovum, so that each fœtus would have its own chorion and placenta; but the occurrence of such a condition has never suggested itself to any observer, and a single chorion and placenta may thus be considered a proper accompaniment of uniovular twins. This, in fact, seems to be the most valuable criterion, in practice, in deciding on the nature of twin births. Those of opposite sex are not uniovular; when of the same sex they may or may not be so, but when they are enclosed in a common chorion, or—the same thing—have a common placenta, they are uniovular. When such details as these are lacking in the birth history, it is not possible to give more than the negative pronouncement that twins of different sex are not uniovular. The subject of twins is always fascinating, and Prof. G. R. Murray, in a presidential address published in this issue of THE LANCET, has ranged far afield and gathered many little-known items of information on the subject. Prof. Murray refers to one matter, the occurrence of *situs inversus* in certain individuals, which, in the past, has perhaps had more value attributed to it than is justifiable. It has been

found in some twin monsters, occasionally in separate twins, and on this the theory has been broached that this condition, when found in an ordinary individual, probably points to his being the surviving member of a twin formation, the other member having failed to develop, or having disappeared in some other way. On this theory a sort of imaginary vicious circle was easily established, and many believed that *situs inversus* in one of the twins was the normal thing. This is not so, though we cannot say how often or under what conditions it may occur. There is a tendency, more marked in other countries than England, to refer such happenings to variations in axial and other gradients, which are, in one sense, matters of metabolism. For those who see in such gradients evidences of cause rather than a complicated expression of process the explanation of morphological differences appears fairly easy, but in any case more data are required about the percentage occurrences of these differences. Moreover, the theoretical possibility hinted at above, that a still more complete division of the ovum might lead to formations apparently not uniovular, should not be ignored. Those who do many post-mortem examinations on women do not, we believe, hold the usual views about the frequency of ovulation, and, if the complete division of the ovum could be established, the frequency of twin formations would come more into line with the apparent frequency of ovulation. Skilled observation of numerous specimens of twin formations is required, however, and practitioners able to furnish such specimens—preferably complete, but at any rate with details of birth history—would be doing good work if they were to send them to an anatomist; nothing is gained by sending them to the pathologist, for they are normal developmental specimens, and the anatomist only wants material to enable him to furnish data on which more reliable hypotheses than those at present current may be founded.

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WE regret to announce the death of John Cleland, F.R.S., M.D. Edin., emeritus professor of anatomy in the University of Glasgow, in his ninetieth year, at Moorcroft, Lidsing, Chatham, on March 5th. Prof. Cleland held the chair of anatomy in Glasgow from 1877 until his retirement in 1909.

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ON the recommendation of the Secretary of State for Scotland, the King has approved the appointment of Mr. John Fraser, *M.C.*, to be Regius Professor of clinical surgery in the University of Edinburgh, in room of Sir Harold J. Stiles, whose resignation takes effect on March 21st. Mr. Fraser graduated with honours at the University of Edinburgh in 1907, gained the Ch.M. with honours in 1910, and was awarded a gold medal for his M.D. thesis in 1912. Among other appointments he holds is at present that of assistant surgeon at the Royal Infirmary, and surgeon to the Royal Hospital for Sick Children, Edinburgh. He is also a university lecturer on diseases of children, and lecturer in systematic surgery to the School of Medicine of the Royal College of Physicians and Surgeons of Edinburgh.

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ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.—The twentieth meeting of the Commission was held at the Home Office, Whitehall, on March 5th, Sir Andrew Duncan in the chair. The National Conference of Friendly Societies, represented by Mr. J. W. Shaw, Mr. Alfred Saunders, and Mr. William Marlow, gave evidence on the question of a public medical service to replace the medical and other treatment benefits given under the insurance scheme. Evidence was given on behalf of the Royal Insurance Officials Benevolent Association by Mr. Duncan Fraser and Mr. E. Syder relating to the general work of the Society and in particular to the application of surplus. Thereafter the Incorporated Dental Society, Ltd., represented by Mr. W. F. Bowen and Mr. F. Butterfield, was heard on the question of making dental treatment a universal benefit, and the scope, administration, and cost of such a benefit. Proof copies of the oral evidence and the relative statements submitted at the meeting of Feb. 19th are now on sale at H.M. Stationery Office (2*s.* 3*d.*).

# Modern Technique in Treatment.

*A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.*

## CXIII.

## THE TREATMENT OF MISPLACEMENTS OF THE UTERUS.

UTERINE displacements fall naturally into two large classes according as the displacement is backwards or downwards, though it must be remembered that the two are often coexistent. It is not within the scope of this article to discuss the causation of these abnormal positions of the uterus, but rather to indicate the modern ideas of the means best suited to remedy them. These means may be educative, mechanical, or surgical, and there are certain indications for the employment of each of these methods. Again, the treatment may be palliative or curative, according to the general condition or the wish of the patient herself. In this article it is proposed to consider: (*a*) backward displacements—either retroversion or retroflexion, or both combined; (*b*) simple prolapse; and (*c*) prolapse together with retroversion. Common to all three is the principle that treatment is only indicated when the symptoms complained of can be definitely ascribed to the malposition present. There is undoubtedly a tendency to assume that a displacement of the uterus is giving rise to symptoms, when in fact it has no part in the production of the clinical picture presented. Very careful consideration must be given to the individual case in order that the relation between the abnormality discovered and the symptoms complained of may be properly determined. An example which might be cited is the comparative frequency with which menopausal symptoms are ascribed to uterine misplacements, with subsequent disappointment when measures for the relief of the misplacement are not followed by any mitigation of the symptoms.

### *Backward Displacements.*

Controversy rages around every aspect of the treatment of these conditions, and it is difficult to present a succinct and reasoned view of the present position. In my opinion congenital backward displacement is but rarely accompanied by symptoms which call for treatment.

*Congenital Backward Displacement.*—When such symptoms do occur in congenital cases, it is reasonable to attempt to satisfy oneself that a correct position of the uterus would cure them; therefore a trial should be made of replacement, if necessary under anæsthesia, and the use of some form of pessary. If by these means the symptoms are relieved, it is legitimate to suggest that some permanent steps should be taken to keep the uterus in a normal position. It has frequently happened in my experience that a retroversion, probably congenital, has been found in cases of sterility or of repeated early abortions. In such cases I suggest that replacement and a pessary be tried before any further line of treatment is advocated. Particularly is the risk of early miscarriage minimised if the retroverted uterus be gently replaced as soon as pregnancy is known to have occurred, and a soft rubber pessary be worn for the first three or four months.

*Backward Displacement of Acquired Origin.*—These cases usually date from a confinement, though one has seen cases in which a traumatic origin has been probable. The routine examination of patients six or eight weeks after confinement should make it possible for a number of these acquired cases to be recognised and treated early, and it is probable that many of them could be cured by simple means. When discovered in retro-position the uterus should be replaced and a pessary of appropriate shape inserted. The patient should then be carefully

instructed as to three points: (1) the regular emptying of the bladder; (2) the prevention of constipation; and (3) the efficacy of lying on the face for a time every day. At the end of three months the pessary is removed and in a fair number of cases no further symptom develops.

In cases of longer standing in which the symptoms call for treatment, the effect of replacement and a pessary should also be tried, and operation reserved for those cases in which the uterus cannot be replaced or in which the pessary and the replacement have been followed by a definite relief of symptoms. When operation has been decided upon an essential point is to leave the uterus in an approximately normal position, and in my opinion a curettage does not fulfil the conditions for a cure. The relief experienced after dilatation and curettage does not last, and many patients suffer a return of their symptoms after a shorter or longer interval.

As to the operation to be practised for the permanent replacement of a retroverted or flexed uterus it is difficult to be dogmatic. Numberless varieties of operative technique have been devised, falling into groups: (*a*) Suspending the uterus from the parietal peritoneum; (*b*) fixing the lower part of the anterior wall of the uterus to the anterior abdominal wall; or (*c*) using the round ligaments as a means of slinging the uterus in its normal position. The second and third varieties alone have claims to serious consideration, the second in spite of M. Dartigues'[1] recent dictum that it should be eliminated from the operative methods. It is so simple, so effective, and so free from danger should pregnancy supervene that it seems worthy of continued use. The third group of operations has almost an infinity of modifications according to the predilections of the operator, and within the limits of a short article it is impossible even to enumerate them. A reflection born of experience is, that before using the round ligaments to keep the uterus in position, it were well to investigate the condition of those ligaments in the particular case. It is no uncommon experience to find such thin, ill-developed ligaments that to trust to them for maintaining a proper uterine position would be unwarrantable optimism. A second may be added—namely, that care should be taken to avoid strangulating the round ligament during the operation, as persistent pain has often been noticed over the area where the ligament has been drawn through the fascia.

My personal experiences of the after-results of both direct fixation and of various methods of shortening the round ligaments have been uniformly good, but of the two there have been fewer complications after the plain fixation.

*Simple Prolapse of the Uterus.*

The treatment of this condition when causing symptoms resolves itself into either supporting the uterus by some form of pessary, or devising such reparative operative procedures as will permanently maintain the uterus in its proper position. It is a growing conviction of the writer that the symptoms of prolapse are less dependent upon the actual position of the uterus than they are upon the concomitant prolapse of the vaginal walls. Early stages of prolapse may undoubtedly be cured by careful attention soon after childbirth by the insertion for a few months of a suitable pessary and by the institution of regular muscular exercises, not the least important being those which have for their object the re-education of the vaginal muscles themselves. In more advanced cases the question arises as to whether the condition is to be palliated or cured. Comfort can be secured by pessaries, but at the cost of several minor troubles and with the need of constant supervision. In some cases the general health, age, or considered choice of the patient may preclude any other method of treatment, or she may be at a time of life where repeated pregnancies are to be anticipated. In any of these instances the palliative treatment must be considered, but, in general, curative treatment by operation is the method of choice. In any given case the operation must be most carefully considered and so planned in its scope and details as to restore the cervix and vaginal walls as nearly as possible to their original condition. The orthopædic rule that it is wise to over-correct a deformity is equally true in carrying out operations for the cure of prolapse. In a simple case of prolapse it is hardly ever necessary to open the abdomen, while, however advanced the condition is, the uterus should on no account be removed unless there be some other condition making the course imperative.

In patients past the menopause, with marked cystocele and prolapse, the operation of interposing the uterus between the bladder and the vaginal wall has a certain though limited usefulness. My own experiences of it have been uniformly good. Lastly, in appropriate cases Le Fort's operation (uniting anterior and posterior vaginal walls along the middle line) is easy of accomplishment and gives very good results.

*Prolapse Associated with Retroversion.*

Prolapse associated with retroversion is commoner than simple prolapse. The treatment follows closely the lines indicated for the last-named condition but with this important difference, that a constant aim in the operative technique should be to leave the uterus in the normal position of anteversion. This position may be obtained during the vaginal procedures, but should it be found on the completion of these manipulations that the uterus is still retroverted or flexed, the abdomen should be opened and a ventral fixation done. The round ligaments are not to be relied upon in the operative treatment of prolapse with retroversion.

J. BRIGHT BANISTER, M.D. Camb., M.R.C.P. Lond., F.R.C.S. Edin.,
Consulting Obstetric Surgeon, Queen Charlotte's Lying-in Hospital; Assistant Obstetric Physician, Charing Cross Hospital.

[1] La Chirurgie Illustré "Pauchet," Paris, 1924.

## THE BATEMAN APPEAL.

As already explained in THE LANCET, it has been felt that material assistance ought to be offered to Dr. Bateman to meet the legal expenses of his recent successful appeal against conviction and to make good the deficiency in his professional income. Accordingly, the Bateman Fund has been opened and a list of contributions appeared in the last issue. We have received additional contributions as follows:—

| | £ | s. | d. |
|---|---|---|---|
| Amount already received and acknowledged | 314 | 10 | 6 |
| Dr. L. G. Glover | 5 | 5 | 0 |
| Lancashire and General Ass., Co., Ltd. | 5 | 5 | 0 |
| Dr. W. C. Humphreys | 5 | 0 | 0 |
| Dr. Miles H. Phillips | 3 | 3 | 0 |
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| Dr. S. A. Lane | 1 | 0 | 0 |
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| Trained Nurse | 1 | 0 | 0 |
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Remittances should be forwarded to the Manager of THE LANCET, 423, Strand, W.C.2, and made payable to the "Bateman Fund Account."

# Special Articles.

## TREATMENT OF WAR INJURIES AT SPECIAL SURGICAL CLINICS.

BY CHARLES MACKAY, M.D., B.S. MELB.,
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AND
D. DENHAM PINNOCK, F.R.C.S. ENG.,
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AMONG the many forms of disability which were incurred by all ranks through service in the late war, of which the disabling effects continued in a more or less high degree after leaving the Service, a larger proportion falls within the purview of the surgeon rather than of the physician. The number of such cases was so great that the Ministry of Pensions found it necessary to make special arrangements for dealing with them. The establishment of Special Surgical Clinics was an important part of these arrangements.

A Special Surgical Clinic is in essentials an out-patient orthopædic treatment centre. It consists of treatment rooms, surgeon's examination room, waiting room for patients, and suitable accommodation for massage staff. In establishing Special Surgical Clinics every endeavour was made to utilise the facilities at existing civil institutions, these facilities being in many instances expanded to meet the special need. Even with this expansion, however, the civil hospital facilities fell short of requirements, and further facilities were rendered available through the agency of the British Red Cross Society, who acquired suitable premises and opened clinics under the administration of a commandant. Over and above these, the Ministry itself established a number of clinics staffed and administered by the department.

These Surgical Clinics have two main functions: (1) The examination of pensioners suffering from war injury for the purpose of determining the need for treatment, surgical appliances, &c.; and (2) the provision of such treatment as can suitably be undertaken at the clinic.

In the general scheme of the Ministry for dealing with surgical cases, the Special Surgical Clinics are linked up with the surgical hospitals, and with the centres for the provision of surgical appliances and artificial limbs. They may refer cases to hospitals for in-patient treatment, or to the Appliances and Limb Centres to be provided with appliances or limbs. They may have referred to them cases from hospital for the purpose of carrying on or supplementing the surgical work which has been done while the man was an in-patient. They may have cases referred to them from the Appliances or Limb Centres, for an opinion as to the man's precise needs, or for a report as to whether an appliance or limb already provided is entirely suitable. In addition to these sources of supply, many cases are referred to the clinics from the various local offices set up by the Ministry throughout the country for the performance of the local work of the department. When a man is referred to the clinic, there is sent at the same time a dossier containing documents summarising the man's medical history as known to the Ministry. This history consists of medical notes made at the time of previous examinations by medical boards and other medical officers. In addition, it includes the records as to the results of any previous courses of treatment. At the outset, therefore, the surgeon at the clinic, is not dependent for his knowledge of the case upon what he himself can ascertain by the present examination. Where the man is provided with treatment at the clinic, the surgeon, on the man's discharge from treatment, continues the history records by adding his own notes, and incorporating the case-sheet and any pathological reports or X ray films, &c., in the treatment dossier, for the information of medical officers who may have to deal with the case in future.

Before proceeding to describe the more professional aspect of the work at these clinics it may be remarked, in illustration of the encouragement to pensioners to avail themselves of such treatment as may be considered to be necessary, that the pensioner's travelling expenses between his home and the clinic are paid by the Ministry, whether in respect of a single attendance for the purpose of medical examination, or the more frequent attendances which are involved in a course of treatment. In addition, if the man's attendance will necessitate his absenting himself from work on one or more occasions during the week, he is paid an allowance in respect of loss of remunerative time. Further, if the circumstances of his course of treatment are such as to necessitate his absenting himself from work entirely, either because of the frequency of his attendances or because it is an essential part of his treatment that he should not work, he is granted, in lieu of any pension which he may be drawing, an allowance in respect of himself at a rate equivalent to pension for total disablement, together with allowances at corresponding rates in respect of his wife and children. No pensioner need therefore be deterred from accepting a course of treatment on account of financial considerations, and pensioners are consequently much more favourably placed in this connexion than is the average civilian.

### *Types of Case Treated.*

The treatment provided at a clinic is necessarily somewhat limited in scope, but is of considerable variety. Such remedial agents as surgical dressings, massage, electricity, heat, passive and active movements, Swedish exercises of remedial character, and exercises for muscle re-education are extensively employed. The types of case in which clinic treatment is undertaken fall into the following classes:—

(1) *Nerve Injuries.*—Mainly those cases which have had nerve suture performed at a comparatively recent date, or other nerve injuries which are slowly recovering, and require treatment by massage, electricity, and muscle re-education.
(2) *Old Joint Injuries* with varying degrees of limitation of movement.
(3) *Extensive Wound Scarrings* with considerable muscle weakness and wasting of limbs.
(4) *Old Bone Injuries* with recent or old sinuses requiring dressing and supervision, also recent bone grafts.
(5) *Organic Injuries* of various kinds, with functional paralysis of varying degree super-added, and requiring both physical and psychical re-education.
(6) *Amputation Stumps* requiring dressings or treatment for pain, &c.
(7) Various forms of arthritis.

The cases which have responded best to treatment are the severe wounds with extensive scarring, mucli muscle weakness, wasting of limbs, and joint stiffness. Under treatment with varying applications of massage, heat, faradic electricity, graduated exercises, much has been done to restore these limbs to a high degree of usefulness. Partial injuries to nerves and tendon transplantations for drop-wrist have also been very successfully dealt with. On the whole, it has been somewhat disappointing to see the final results of many nerve suture operations, especially those on the sciatic nerve, external popliteal nerve, and median and ulnar nerves. After months and years of continuous treatment some of these cases show little response in the direction of increased movement or power in the foot and hand, the foot remaining partially inverted and dropped in spite of treatment. Although disappointing from the point of view of return of movement, nerve suture with after-treatment has probably been of very definite physiological value to the limb, in preserving a better blood-supply with less liability to trophic disturbances. The most encouraging of these nerve cases have been those of musculo-spiral suture, and this experience has been common to many observers. In the case of the lower

limbs, operations on the knee-joint have necessitated a large amount of after-treatment. Where the injury for which the operation has been done has occurred several years before, the wasting of the thigh, especially of the vastus internus muscle, requires much treatment to bring it up to anything approaching normal. Injuries of the shoulder, either of the joint itself or in the neighbourhood of joint, are the cause of severe disablement. Very often the pensioner comes to the clinic unable to abduct and to elevate his arm as far as a right angle. Much improvement may be effected in these cases by treating patients in the lying-down position. By this means the weight of the arm is taken off the weakened muscles, and after the application of massage and heat the pensioner is often able to raise his arm much further in this position than he had previously thought possible. Carefully graduated exercise in the lying-down position is essential for the recovery of movement at the shoulder. By means of pillows the patient can be gradually raised to a sitting-up position, and movements which were at first impossible become comparatively simple and easy. To begin the attempt to obtain movement in the region of a damaged shoulder-joint in the standing or sitting-up position is to invite pain and consequent reluctance to attempt movement on the part of the pensioner. In the lying-down position his confidence is easily obtained, and he adjusts his movements to his own feelings. No attempt is made to force the arm above the position at which he feels pain. The cardinal idea is that the movements should be voluntary and supervised. It is well to remember that an arm and hand are useless unless the thumb can be opposed to the fingers. This is the supremely essential movement to be striven for in the upper limb.

Function, no matter how obtained, whether by so-called trick movements or otherwise, is the aim of treatment at the clinics. With all forms of injury it is recognised that movement is the ultimate goal, and that active movement should be encouraged by every means possible.

*Re-education.*

The old conception that the more one did for the patient the better, is gradually being improved into that of encouraging and supervising the patient to do as much as possible for himself. It is even yet very difficult to get masseuses to recognise that what the patient does for himself is of infinitely more value than what is done for him. The tendency to take up too great a proportion of the treatment time in applying massage and electricity requires to be counteracted by the surgeon. Muscle re-education, in the sense of getting the pensioner to concentrate his attention on his own supervised attempt to recover power in weak or partially paralysed muscles, always working to this end with the aid of gravity, and in the positions where the muscles can work at the best advantage, is regarded as the most important part of the modern treatment of these conditions, and is extensively used at the clinics. It may be remarked that experience at these clinics lends strong confirmation to the opinion that in all forms of physical treatment a certain amount of psychical treatment is also necessary. It has not always been easy to get the individual pensioner into a frame of mind where he is inclined voluntarily to assist with his own treatment. The tendency to do little for himself can only be counteracted by the surgeon in charge taking a personal interest in the individual, and showing him how much to his own future advantage it is to assist in his own treatment. The atmosphere thus created is a great help to the individual and to the clinic generally. Re-education in walking has formed an important part of the advanced treatment of many cases of severe injury of the lower limbs. As an essential part of treatment the provision of various types of orthopædic appliance should be mentioned, as well as that of surgical boots and shoes.

Apart from purely surgical cases there are also treated at these clinics many medical conditions, such as rheumatism, myalgia, sciatica, and various forms of arthritis. These are treated by means of heat, massage, ionisation, and so forth. The chronic cases of arthritis are necessarily the most obstinate in responding to treatment, and it is often very difficult to decide when treatment should be discontinued, especially in the elderly pensioner. In many instances all that can be done is to attempt to relieve severe pain, and as pain is a purely subjective phenomenon, the question as to whether any definite improvement in the condition can be accomplished by treatment requires very careful investigation and consideration.

In conclusion, we beg to express our indebtedness to the Director-General of Medical Services of the Ministry of Pensions for his kind permission to publish this article.

## PROCEEDINGS OF THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.*

(*Continued from p. 509.*)

### THE APPROVED SOCIETIES AND THE MONEY BENEFITS.

*The Controller's Evidence.*

(App. A. 56.) The ordinary benefits of the National Health Insurance Act are four in number—namely, medical benefit, sickness benefit, disablement benefit, and maternity benefit. The official evidence in regard to medical benefit has been summarised. So far as this benefit is concerned, the only duty devolving upon Approved Societies is that of keeping the Insurance Committees informed of the persons who are entitled to medical benefit, and of those who cease to be so entitled. For all but a relatively small part of the insured population the other three benefits (collectively known as the money or cash benefits) are administered by Approved Societies.

*Rates of Sickness Benefit.*

(App. A. 57–8.) Sickness benefit consists of money payments made after the third day of incapacity, at the following rates: (*a*) After 104 weeks in insurance and payment of 104 weekly contributions: for men, 15*s.*; for women, 12*s.* (*b*) After 26 weeks in insurance and the payment of 26 weekly contributions, but before completion of the conditions indicated at (*a*): for men, 9*s.*; for women, 7*s.* 6*d.* Disablement benefit is a continuation of sickness benefit after 26 weeks of payment have been made and is at the rate of 7*s.* 6*d.* a week for both men and women.

*Conditions Attaching to these Benefits.*

(App. A. 60–3.) In general, claims to sickness and disablement benefits are based upon the medical certificates required to be furnished by the insurance practitioners. The member must send notice of incapacity within three days if he wishes to avoid some loss of benefit. The onus of giving notice of illness is placed upon the member himself, and there is nothing in the Acts to suggest that this duty devolves upon relatives or friends of the member, or upon the medical attendant, even in cases where the member is obviously incapable of attending to the matter himself—e.g., in cases of mental derangement. Mere ignorance of the requirements of the Acts or of the society's rules regarding the prompt notification of illness is not accepted by societies as a sufficient ground in itself for delay in giving notice

* In previous articles the proceedings of the Commission were reported under the following headings: Introductory Note; The Scope of the Insurance Scheme (see THE LANCET, Jan. 31st, pp. 247–8); The Provision of Medical Benefit (Feb. 7th, pp. 301–3; Feb. 14th, pp. 355–6; Feb. 21st, pp. 403–5); Financial Provisions of the Act (Feb. 28th, pp. 454–7); Medical Certification and the Regional Medical Staff (March 7th, pp. 508–9).

References to the official statement which has been issued as an appendix in four sections are given thus: Section A, para. 69, is shown as "App. A. 69," and references to the oral evidence thus—Q. 1369.

of illness. In practice, however, societies are prepared to give relief from the usual consequences of late notification of incapacity in cases where they are satisfied that substantial grounds can be shown for the member's delay.

(App. A. 64.) Cases in which sickness or disablement benefit is claimed on the ground of pregnancy occasion a considerable amount of difficulty to societies on the ground that the performance of full household duties may not unreasonably be regarded as an alternative occupation in the case of a married woman. Where, however, the claim is not made until a comparatively late stage, it would be much more likely to receive favourable consideration inasmuch as societies in general are prepared to recognise the inherent probability of incapacity during the weeks immediately before confinement.

*Supervision of Claims.*

(App. A. 68.) All societies are required to include in their rules a provision in the form prescribed by the Ministry regarding the behaviour of members during sickness—e.g., the patient must obey the instructions of his doctor, must not be absent from home between certain stated hours, and must not go away without the society's consent.

In general, the arrangements made by societies for supervision are of two kinds—namely: (1) Sick visitation. (2) The reference of the member for examination by a Regional Medical Officer or some other independent doctor in any case where the continuance of incapacity is thought to be in doubt. The work of the sick visitor is in no way concerned with the medical treatment of members who are incapable of work, but he has to see that the rules as to behaviour during sickness are observed and he may bring to notice circumstances which would seem to raise doubt as to the continuance of incapacity.

(Q. 313–4.) As the change from what is called sickness benefit to what is called disablement benefit may appear to open up the possibility of a long period of payments, a number of societies are inclined to referee automatically every case when 26 weeks benefit has been paid. The Department, said the Controller, object to this.

*Maternity Benefit.*

(App. A. 74–6.) Maternity benefit consists of a payment of 40*s.* on the confinement of the wife (or where the child is a posthumous child, of the widow) of an insured man, or on the confinement of an insured woman; where the woman is married and is herself insured, two payments of this amount are made. This benefit is in all cases required to be applied in the interest of the mother and child and may be administered, in the discretion of the society, either in cash or in kind. A few societies, instead of paying over the full amount of the benefit to the woman in cash, make provision for her confinement either by providing the services of a doctor or midwife or by arranging for her admission to a maternity home. In general, however, the benefit is administered as a payment in cash. The Controller was asked—

(Q. 354.) Have you any indication of the extent to which the maternity benefit is entirely absorbed by the doctor's fees?—Yes. I think the increasing tendency is that the doctor endeavours to get the whole amount of the maternity benefit. When originally 30*s.* was paid as maternity benefit the doctor took 30*s.* as his fee. Now that we pay 40*s.* his fee very frequently is 40*s.*

*Arrears and Disputes.*

(App. A. 103–4.) Contributions are not payable during weeks of notified sickness, and a member is also allowed four weeks of unemployment in a year without falling into arrear. Beyond this point the rates of sickness and disablement benefits are reduced in accordance with a sliding scale until they reach a point (under 26 contributions) where all benefits are suspended. Reduction of rate or suspension can be avoided by the payment of arrears penalties.

(App. A. 111.) As to disputes in regard to a claim to benefit, societies are required to make due provision in their rules. There is no prescribed form of procedure for the determination of disputes between societies and their members; there is in fact much divergence of practice among societies in this respect. A considerable majority of societies have, however, adopted the Department's model rules. After a dispute has passed through the procedure laid down in the society's rules, either party to a dispute may apply to the Minister of Health for leave to appeal.

(Q. 454.) Are you satisfied that the present arrangements afford sufficient protection to an insured person who thinks he has been unfairly treated?—On the whole the arrangements work fairly well. . . . We still have difficulties. The rules of some societies are still too cumbrous; insured persons do not understand them. In some societies insured persons have to appear before two, and possibly three, separate tribunals before their case is finally disposed of. In a few cases societies still continue to charge what we regard as rather onerous deposits payable by the insured person as a condition precedent to his appeal being heard, and I am inclined to think that in certain societies insured persons, when their benefit claim is refused, are not informed of their rights and of the procedure which they ought to follow as fully as they should be.

The Controller indicated that in this matter the powers of the Department appeared to be inadequate.

*(To be continued.)*

## MEDICINE AND THE LAW.

### CASE DECIDED ON MEDICAL EVIDENCE.

AT a recent inquest at Hungerton in Leicestershire it was proved that the vicar, the Rev. W. G. C. Bettison, had shot himself with a gun when suffering from the effect of mental depression, blowing away his cheek and part of his upper jaw. His sister had gone to him after an interval, as was proved by witnesses, and while she was alone in the room with him a shot had been heard which she afterwards declared that she had fired at his request to put him out of his pain. Owing to her mental state she had to be removed at once to a mental hospital. The grave question therefore arose as to whether the sister had been guilty of murder or whether the deceased had committed suicide. As to this Dr. E. Williams gave evidence to the effect that the wound in the head described above must have proved fatal within an hour, and had, without doubt, been self-inflicted. The second wound had blown away half of the heart and the left lung. It was questionable whether Miss Bettison could have known whether her brother was dead or alive when the second shot was fired. He did not think it possible that Mr. Bettison could have said anything coherent after the first wound had been inflicted, although he might have made a noise. This had reference to Miss Bettison's statement that her brother had asked her to kill him, with reference to which evidence had been given by a person who had been in the passage outside the room that he had heard no conversation. It had also been shown that time had elapsed between the first and second shot, during which Miss Bettison had been summoning assistance. Dr. Williams was of opinion that, owing to her mental condition, Miss Bettison might easily have imagined that she had been asked to fire the second shot. The coroner, in addressing the jury, pointed out that no one was justified in putting an end to the life of another to save him from suffering, but added that owing to the medical evidence this question did not arise. He invited the jury accordingly to return a verdict of suicide while of unsound mind, and this was done. In comment it is to be observed that the verdict was right according to the evidence. No jury at an assize would have found Miss Bettison guilty of murder without proof that her brother was alive when she fired the second shot, as probably she did, particularly as her statement that she had been asked to fire it, made in the condition in which she was, was negatived by the conditions due to the wound inflicted on himself by the deceased.

### ACTION FOR ALLEGED NEGLIGENCE IN ADMINISTERING AN ANÆSTHETIC.

In the case of Murdock v. Holmes and Taylor, recently tried at Leicester Assizes, damages were claimed by the plaintiff for the loss of the sight of one eye, on the ground that this had been caused by the negligent administration of an anæsthetic during a prolonged operation. The case for the defence was that the injury to the eye, if caused by the anæsthetic, was not due to any negligence in administering it, but to septic conditions in the plaintiff at the time when it was administered. This case presented some problems interesting particularly to anæsthetists and ophthalmologists. The medical facts appear to have been briefly these. A laparotomy was performed to find and remove the cause of an obstruction of the bowels from which the patient had obviously been suffering for some days. An anæsthetic, consisting of two parts of ether to one of chloroform, was administered on an open mask, a Gamgee pad being placed on the face. It appeared in the evidence that twice this pad had become so wet with the anæsthetic that the anæsthetist changed it. On the day after operation the patient complained of violent pain in the left eye and he was seen soon after by an ophthalmic surgeon, who found a condition of the eye "not inconsistent with some anæsthetic having got into it." There was swelling of the corneal epithelium, but no abrasion, and the eye was acutely inflamed. Eventually a dense scar formed across the middle of the cornea. The defence rested on the fact that the patient's state was highly toxic, the bowels were opened only with great difficulty during the days after the operation, and that a damage so slight as to be easily recovered from in the normal subject led in this poisoned subject to the serious keratitis resulting in scar. It was admitted by some of the experts giving evidence for the defence that this damage was probably caused by drops of liquid anæsthetic, but others maintained that the vapour itself would have been enough, in the patient's condition, to set up the corneal damage. This appears an interesting and important point, for no care, however meticulous, can prevent anæsthetic vapour reaching the eye. There is, we believe, no evidence, clinical or experimental, to support the contention that in an unhealthy subject the normal engorgement caused by inhalation of the anæsthetic could have caused the lesion. There is, however, good evidence to show that even considerable amounts of the anæsthetic employed can be dropped into a normal eye and lead to no serious consequences.

The jury after a prolonged hearing were unable to agree as to a verdict and were accordingly discharged.

### DYSON *v.* MEYRICK: JUDGMENT.

The Lord Chief Justice gave judgment for Dr. Meyrick on his claim for the sum of £98 4*s.* 6*d.* (the sum to which the original sum sued for had been reduced by the finding of the jury as to the agreement for weekly payments) and allowed him the "appropriate costs." He gave judgment for Mr. Dyson on the counterclaim for 20*s.*, with the costs of the counterclaim.

In delivering judgment Lord Hewart said that the finding of the jury that Herbert Dyson was confined in a locked room at times was an exceedingly grave matter, and as to it the evidence was overwhelming. It was impossible not to sympathise with the patient as well as with those having care of him, but it was tolerably obvious that the case was not one suitable for Dr. Meyrick's house, hence, perhaps, the seclusion and the concealment of it. On behalf of the defendant it had been contended that this breach of duty went to the root of the whole matter, and constituted a defence to the entire claim. For some reason or other, however, the jury had found that the only damages suffered by Mr. Dyson through the seclusion of his son were to be assessed at 20*s.* Whatever his Lordship's own opinion might be about the matter, it was his duty loyally to observe the verdict of the jury, and for that reason he was unable to say that Dr. Meyrick's breach of duty could be said to go to the root of the contract, although he was clearly of opinion that it invited the attention of the Board of Control. In the circumstances he gave judgment to the effect above stated.

## BERLIN.

(FROM OUR OWN CORRESPONDENT.)

### *The "Haff Disease."*

Prof. Lentz, of the German Health Office, recently read a paper before the Berlin Medical Society on the causes of the peculiar disease among fishermen of the Kurisches Haff, a bay in Eastern Prussia, which was described in one of my previous letters (see THE LANCET, 1924, ii., 774). He said that the disease had spread since last autumn, so that the number of cases now totalled 600, with three deaths. As regards symptoms, the pains in the muscles had sometimes been so severe that the fishermen were unable to steer their boats. The urine was scanty and contained much albumin and granulated casts, which were sometimes present after three weeks. Many of the fishermen became ill on successive occasions, several of them up to six times, when they put to sea on the bay. At the post-mortem examination of a fisherman marked parenchymatous degeneration of the kidneys was found. Prof. Lentz was successful in ascertaining the cause of the disease. To find out whether it was caused by an infection one of his assistants injected into himself a quantity of blood of a man who had just become ill. The assistant showed no symptoms. But 1 c.cm. of the water of the bay injected into a fisherman who had already had the disease produced a fresh attack with typical symptoms. It could thus be concluded that the agent of the disease was contained in the water. Further investigations proved that the water from the cellulose factories by which the water of the bay was contaminated contained 28 mg. of arsenic to the litre, and in the blood, urine, and various organs of men and animals who died from the disease arsenic was found. The poison in the water is taken up by the algæ of the bay and thus developed into arseniuretted hydrogen, which is inhaled by the fishermen. The cellulose factories have been working for many years, and to account for the fact that their waste waters had not formerly developed a poisonous action two reasons are put forward: (1) that owing to the water of the river Nogat being dammed up, the water of the bay had been in a more stagnant condition than formerly; and (2) that the factories had since the outbreak of the war used Rio Tinto pyrites, which contain arsenic, instead of the Cyprus pyrites. The latter raw material is now in use again and the disease has disappeared. To assist the indigent fisher population the Government has set aside a large sum.

### *An Action for Damages.*

Before the Berlin law courts a member of the medical staff of the municipal Friedrichshain Hospital brought an action against the city of Berlin for the payment of 600 marks (£30) monthly to defray the costs of a sojourn in a southern climate, rendered necessary through his having become incapacitated by tuberculosis during his hospital service. The plaintiff stated before the court that he had been in charge of the tuberculosis ward of the hospital in 1922 and 1923 and that the hygienic conditions then were very bad, and owing to the general poverty tuberculosis had so increased that the wards were overcrowded. The plaintiff stated that he had never been ill before he had been appointed to the tuberculosis ward, and that three other medical men and several of the nurses had also caught the disease there. The statements of the plaintiff were confirmed by witnesses. Counsel for the plaintiff alleged that although things had now become normal the hygienic state of the hospitals had been very bad for a time, as owing to the depreciation of the currency the city of Berlin had scarcely the necessary means to run the hospitals at all; further, that the plaintiff had

caught the germs of the disease during the war at the front; and that independently of its hygienic condition every tuberculosis ward was a danger to the medical and nursing staff who were compelled to live there. The court finally pronounced judgment in favour of the plaintiff, and ordered the city of Berlin authorities to pay the plaintiff £30 per month for six months during the latter's stay at the health resort.

*Death of Prof. Julius Hirschberg.*

The death is announced of the ophthalmologist Prof. Hirschberg, a doyen of the Berlin medical profession, at the advanced age of 82 years. When assistant to the great ophthalmologist Prof. von Gräfe of Berlin, Hirschberg carried out research work on cancer of the retina and later extended his work widely in his own specialty. He was the first to recommend the use of the electro-magnet for the extraction of iron splinters from the eye (1885). His work "Introduction to Ophthalmology," published in 1892, was translated into several languages. He was not only a distinguished ophthalmologist, but a distinguished philologist and historian as well. He published an historical work in several volumes on the ancient Greek, Roman, and Arabian ophthalmologists. Apart from these more professional studies, he wrote essays on Homer and Aristophanes. All his life Hirschberg was one of the most energetic members of the Berlin Medical Society, and even in his latter years, notwithstanding his age, he was seldom absent from a meeting. He bequeathed his well-known library to the State.

*Conviction of a Christian Scientist.*

In the city of Lübeck recently a boy received a severe abdominal wound with prolapse of the intestine through falling on a paling. Although his suffering was great no medical man was consulted at the time of the accident, but the parents approached a Christian Scientist, who, it was alleged, had successfully cured a fistula in a relative of the family some time previously. The "scientist," a woman, first refused to deal with the case because the parents did not belong to the sect, but finally came to the house of the patient and prayed with the family. She declined to see the wound, because she said that would prejudice the effect of the prayer. The boy's condition grew steadily worse, with the result that the parents after two days conveyed him to a hospital. He was then operated on, but could not be saved as severe peritonitis had already developed. The "scientist" was then prosecuted for manslaughter through neglect. Witnesses for the defence gave evidence that they had in numerous instances seen grave diseases cured by Christian Science. A medical witness for the prosecution stated that in the above case an operation performed within six hours after the injury would very likely have saved the life of the boy. The jury gave a verdict of "Guilty," and the defendant was sentenced to one year's imprisonment.

*Statistics of German Students.*

The number of students in the German universities has decreased steadily during the last three years; for the years 1922, 1923, and 1924 respectively, 12,296, 10,290, and 7728 students matriculated. The reason of this diminution is that through depreciation of the currency the financial condition of those classes whence the majority of the students were formerly recruited—the liberal professions, Government officials, and the middle classes in general—could not bear the cost of study. Many of the students had to interrupt their studies and to enter into business, and even take to manual work, to earn a livelihood. Now that the currency has become stable again and the fees of study considerably reduced, the number of students has increased to 8313. But the number of medical students is only 1810, against 1967 last winter, women numbering 331 and 315 respectively. The repeated warnings against medical study because of the cheerless outlook in the medical profession has obviously produced these figures.

# Correspondence.

"Audi alteram partem."

## THE BATEMAN APPEAL FUND.

*To the Editor of* THE LANCET.

SIR,—In enclosing a small contribution towards the Bateman Appeal Fund, may I add my surprise that during the trial no reference was made to a paper on post-partum avulsion of the uterus, with a case, followed by recovery, which is fully recorded by Mr. Hopkins Walters in the Transactions of the Obstetrical Society of 1884, p. 233. In the discussion that followed the late Dr. G. E. Herman said that "a great value of Mr. Hopkins Walters's paper was in this: that in any future case of the kind in which evidence on the subject might be required in a law court, those whose duty it was to form an opinion would find all available facts bearing on the subject brought together in Mr. Walters's paper."

I am, Sir, yours faithfully,

Sheffield, March 9th, 1925. MILES H. PHILLIPS.

## THE FUTURE OF MEDICINE IN INDIA.

*To the Editor of* THE LANCET.

SIR,—In an editorial article contained in your issue of Feb. 28th on this subject I am credited with giving a benediction to the Lee Commission's proposed R.A.M.C. (India). You correctly quote me as stating in THE LANCET, Sept. 20th, 1924: ". . . it may confidently be expected that a number of well-qualified young men of the home medical schools desiring an Indian career will join this service with a view to obtaining professional work in the provinces, and when political opinion has settled down they will have a full and useful career." But I would like to state that this was written under the impression that the strength of the War Reserve, transferred from military to the civil side, would remain approximately the same as it was before the war. My idea was that the proposed change would simply mean a resurrection of the I.M.S. under another name, and that the traditions of that service would be carried on uninterruptedly in the R.A.M.C. (India). I had overlooked the footnote on p. 12 of the Lee Commission's Report which runs: "On this point (War Reserve transferred to civil) we have proceeded upon the assumption that the quota of military medical officers from civil employ required for the Reserve will not exceed the total (122) specified in the D.M.S.'s memorandum of 2nd July, 1922, attached to Government of India Despatch No. 1 of 1923." This very seriously reduces the chances of officers joining the R.A.M.C. (India) obtaining civil employment.

The real attractions of the I.M.S. have always been that its officers held H.M. Commission, had opportunities for field service, and the prospects of work on the civil side. The combined strength of the R.A.M.C. and I.M.S. before the war was well over 1000. The proposed R.A.M.C. (India) would have to provide medical officers for both the British and troops, the curtailed War Reserve, political and other branches. Assuming that its strength would be 800, acceptance of the Lee Commission's proposals would mean that only 15·25 per cent. could hope for civil employment—that is, about 1 in 7, and of these a certain (unknown) proportion would be Indians.

In the real circumstances I do not think that the proposed R.A.M.C. (India) would be popular with the best young men of the home medical schools. At least six-sevenths of them would spend all their service in military employ, and men wishing for a military medical career would certainly prefer joining that splendid service, the R.A.M.C. I am also disposed to consider that the majority of senior I.M.S. officers would discourage young men at home competing for the R.A.M.C. (India). I doubt if the

proposed provincial medical service will attract any candidates. As one predicted, a certain number of men will doubtless seek employment under special contract; time alone will indicate how far these appointments fill satisfactorily the positions previously held by I.M.S. officers, and whether these contract men will be happy in their work.

I am, Sir, yours faithfully,

P. HEHIR,
Major-General, I.M.S. (ret.)

Westward Ho! Feb. 28th, 1925.

## PRESERVATIVES IN FOOD: DRAFT REGULATIONS, 1925.

*To the Editor of* THE LANCET.

SIR,—These Regulations are certainly to be commended, and carry out largely the recommendations of the Departmental Committee, but in one respect they seem to be retrograde (I take it through some inadvertence)—that is, food sold in hotels, restaurants, &c. (see Part 2, Section 4, subsection (2), last sentence)—"provided that this provision shall not apply where the article of food is sold in any hotel, restaurant or other such place for consumption on the premises."

At the present time the sale of preserved cream if sold for consumption on the premises requires a notice to be placed in a conspicuous position in the room, or a statement on the bill of fare or some other adequate means of similar intimation. (See "Milk and Cream Regulations, 1912," Section V.) These Regulations are, however, to be revoked by Section 15 of the proposed new Order. The result is that any food, including cream, may have excessive preservative added.

Considering the large number of persons whose work necessitates their taking their meals in restaurants, it would appear that the proposed regulations still need some further modification for the protection of the public who use restaurants in order to prevent excessive quantities of preservative being added to food. Surely if it is desired to make some special provision in the case of restaurants, for example, as regards colouring matter or even preservatives, some limitations should be enacted, and not merely exemption of such premises.

A pleasing feature of the Regulations is that power is now sought see Section V. (2), to get over a difficulty to which I drew attention in 1922, when we found colouring matter being openly sold at the Dairy Show recommended for addition to milk, although the sale of milk with it or any preservative is illegal.

I am, Sir, yours faithfully,

G. CLARK TROTTER, M.D.,
Medical Officer of Health, Islington.

London, N., March 9th, 1925.

## THE ACIDIC VALUE OF THE URINE IN SKIN AND OTHER MANIFESTATIONS.

*To the Editor of* THE LANCET.

SIR,—In his letter to THE LANCET of Feb. 28th Dr. A. Whitfield has written: "Dr. Semon, since the publication of the paper in which he was associated with Dr. Barber, has published another recommending X rays for acne, a disease which I am sure Dr. Barber will agree with me in regarding as lying on a foundation of seborrhœa; so that apparently Dr. Semon has not found the alkaline treatment alone sufficient. . . ." The implication would seem to be that I had used alkalies by the mouth in the treatment of acne, and found it of little or no effect.

May I be allowed to assure Dr. Whitfield that I have never prescribed bicarbonate of soda or any other alkali for that condition? My opinion of the value of "alkalisation" in *acute* seborrhœic conditions, such as Dr. Barber and I had to treat at a base hospital in France, remains unshaken by my civilian experiences since the war. There is, after all, nothing very novel in our conceptions. It has been long known that all inflamed mucous membranes are soothed by the oral administration of solutions of the alkaline salts, and, long before salicylates were introduced, that treatment was accepted and practised for the synovitis of rheumatic fever. If these structures are thus influenced, then why not the acutely catarrhal skin? In chronic cases of seborrhœic type I have been less successful, and my results have seemed to vary inversely with the chronicity of the affection treated. In agreement with Dr. Barber I believe that the secondary infections with common organisms such as the staphylococci and the acne bacillus, which, as Dr. Whitfield maintains, will flourish on a seborrhœic terrain, produce a local alteration, a sensitisation (to use a modern term), which is not so easily influenced by alkalisation as are the acute manifestations. It seems to me significant that it is just in this type that applications of tar ointments, &c., and X rays, are so valuable an adjunct to the general measures. It may be, on the other hand, as Dr. Doble claims, that "too much alkali (with a pH value of the urine as low as 7·2 to 8) will, as in his Case 1, cause the lesions to reappear." I may therefore have overdosed my chronic and less-alkali-tolerant cases, none of which were submitted to the careful tests recorded in Dr. Doble's paper; for, like Dr. Whitfield, I have hitherto employed only litmus as the reaction indicator.

The solution of the problem and the explanation of the failures seem to me a matter for prolonged biochemical investigation, in which a clinician like myself can play only a subsidiary part.

I am, Sir, yours faithfully,

HENRY C. SEMON.

Queen Anne-street, W., March 7th, 1925.

## THE EFFECTS OF AN ANTISERUM UPON CANCER CELLS IN VITRO.

*To the Editor of* THE LANCET.

SIR,—I have read with great interest the observations by Dr. Thomas Lumsden under the above title published in THE LANCET of Feb. 21st. He concludes that antibodies more or less specific to cancer can be produced by its repeated inoculation into an animal of another species. That is, in his experiments, in vitro cultures of mouse tumour do not survive in the serum of rats and rabbits repeatedly inoculated with mouse tumour.

There is, however, another aspect. In 1912, the late Dr. G. Carrington Purvis [1] (Grahamstown) suggested treatment in cancer by injections of serum obtained from sheep after several inoculations with prepared human cancerous tissue. His object was to prepare "a cytolytic serum or a serum which would kill the cells of cancer occurring in a human being." I examined some of the serum which he gave me, and I inoculated rats with mouse tumour, as well as the rabbit, sheep, and goat repeatedly with fresh human cancer tissue, and with cancer serum. The results obtained were given in a paper entitled Some Reactions of the Blood After Cancer Inoculation, read at the Seventeenth International Congress of Medicine (Therapeutics; Sub-Sect. Chem. Pathol.), London, 1913. In all cases the reactions of the blood were found to run parallel with reactions I had previously obtained with antidiphtheritic serum and other immune sera. In August, 1924, I repeated the experiments in the sheep, in the Brown Institution, with results which fully confirmed the earlier ones. In no case did the grafts grow. A direct cytolytic effect on the serum in vitro was not investigated, as at the time the stimulation of protective substances or enzyme activity in vivo was aimed at. The clinical side from this point of view has still to be investigated. In only three cases has the serum been employed—

[1] Proc. Scottish Micr. Soc., 1912, vol. vi., p. 43.

two by Purvis and one by myself. The condition of the patients, however, was too advanced for any definite conclusion. There is one point which needs consideration. The response to produce an effect was found to vary in the different animals. The sheep was more responsive than the rat, rabbit, and goat. The question arises whether the horse might be more suitable.

I am, Sir, yours faithfully,

J. A. SHAW-MACKENZIE, M.D. Lond.

London, March 5th, 1925.

## DISLOCATION OF THE SEMILUNAR BONE

*To the Editor of* THE LANCET.

SIR,—Mr. C. Noon's article on this subject in THE LANCET of Feb. 28th stimulates me to record a similar case which came under my care in the Northampton General Hospital last July. The patient was a man aged 28. He stated that while starting a car the handle became locked with the shaft and threw him over. He was referred to me by the house surgeon a few days after the accident. He was suffering from very severe pain in wrist and hand and was unable to move the fingers. There was general swelling of the wrist. An X ray plate which had been taken from the dorsal aspect showed nothing beyond a slight irregularity of the proximal row of carpal bones. A lateral view of the joint was obtained, and this showed forward dislocation of the semilunar bone with rotation of the inferior articular surface to the palmar aspect. Manipulation under anæsthesia failing to reduce the dislocation, an open operation was performed one week after the accident. An incision was made just to the radial side of the tendon of the flexor carpi radialis, avoiding the median nerve, and the dislocation reduced without much difficulty. The wrist was put up on a splint in a slightly flexed position to prevent redislocation. He was encouraged to move his fingers from the first and no splint was used after a fortnight. An excellent functional result was obtained, but three months after the accident flexion and extension movements at the wrist-joint were still somewhat limited.—I am, Sir, yours faithfully,

C. COLGATE HOLMAN.

Northampton, March 3rd, 1925.

## BISMUTH THERAPY IN SYPHILIS.

*To the Editor of* THE LANCET.

SIR,—In the leading article upon this subject in THE LANCET of March 7th with reference to my review in the first number of *The British Journal of Venereal Diseases* you mention the omission from the bibliography of Levaditi and Nicolau's paper in the *Annales de l'Institut Pasteur*. The explanation is, that when the bibliography was compiled, it had to be kept within small compass on account of considerations of space. As it turned out, however, it might have been extended. The reference to Levaditi's Harben Lecture (*Journal of State Medicine*, 1924, xxxii., 62) was considered sufficient, and that it would be more easily accessible. In that lecture Levaditi explains the details of the bismoxyl experiments, and also gives a reference to his joint paper with Nicolau (*Compt. rend. Acad. des Sc.*, 1923, clxxvi., 1189). On account of the immense literature on bismuth therapy, a rather rigorous selection had to be made, otherwise the bibliography would have been of greater length than the review. I do not think, however, that anything essential was omitted.

In the next issue of the *B.J.V.D.* there will be found a brief résumé of the main experimental and clinical reasons which compel me to take a different view from Lomholt as to the therapeutic value of mercury.

I am, Sir, yours faithfully,

Manchester, March 7th, 1925. E. T. BURKE.

## THE FULL RESOUNDING LINE.*

*To the Editor of* THE LANCET.

SIR,—The day before I read, with the most sincere regret, of Sir Clifford Allbutt's death, I had occasion to seek out his Cavendish lecture from my archives. The passage I was in search of was in the middle of the pamphlet, but my eye fell upon the opening paragraphs, and I devoured them as if entranced by the magic of the wording. It is no wonder, I said to myself, that he was accounted a master of graceful and scholarly exposition. Lest your readers should have forgotten, as I had forgotten, the grace and charm with which this courtly old gentleman (and he was such a gentleman) was capable of investing the severest of subjects, I append the passage—"for Delight," as Bacon says of Studies, "for Ornament and for Ability."

"In a little tract of the brain, one so small that an infant might grasp it, lies the engine of all that makes life worth living; and but a few inches below it, where brain and spine unite, is a still smaller tract, where lies the knot of life itself. The upper tract has its times of energy and of repose, by sleep its ravelled sleave is knitted up; but the knot of life itself knows no pause, no quiescence; let its vigilance be at fault for a few seconds, and the busy frame it governs will drop into silence. Save as a lesson in physiology, these are strange parts to us; yet there is another unsleeping minister of life, our familiar, of whose pulses Harvey was rapt into saying that they 'are of the spirit of the blood acting superiorly to the powers of the elements . . . . and that the soul in this spirit and blood is identical with the essence of the stars.' When the pulses of this instrument beat in harmony we feel within us that all is well; when they are jangled and out of tune we are dismayed. Often when in the still night I hear, as I lie, the calm and continual rhythm of my familiar spirit ever winnowing boon from bane, I am lost in wonder at the long procession of these notes of human time, at this perpetual beat of the manifold tides of life. As I listen to its notes they seem to fall into the burden:—

'So schaff' ich am sausenden Webstuhl der Zeit,
Und wirke der Gottheit lebendiges Kleid.'

Sixty times a minute, at least; 3600 times an hour, 86,400 times a day, for us heedful and heedless, does this shuttle of life throb to and fro; for us in tireless periods this pendulum of man's gravitation tells the seconds which can never return."

I am, Sir, yours faithfully,

Harley House, N.W., Feb. 28th, LEONARD WILLIAMS.

* Pope's reference to Dryden in his Imitations of Horace:—

"The full resounding line,
The long majestic march, and energy divine."

## HEXYL RESORCINOL.

*To the Editor of* THE LANCET.

SIR,—In your issue of Feb. 28th you refer to the new synthetic compound hexyl resorcinol which, when administered by the mouth, renders the urine highly bactericidal, and you refer also to the desirability of obtaining clinical evidence as to the effectiveness of the use of this new drug in the treatment of infections of the genito-urinary tract.

The references made to this discovery in your journal and in other medical journals have brought to us so many request for supplies of this new drug that we have deemed it desirable at once to make some hexyl resorcinol in our laboratories, and this we have now done. While we feel it premature to offer this medicament for sale without further evidence as to its clinical value, we write to say that we shall be pleased to supply it in limited quantity to any medical men who are interested in trying this new remedy.

We are, Sir, yours faithfully,

THE BRITISH DRUG HOUSES, LTD.

16–30, Graham-street, City-road, London, N. 1,
March 4th, 1925.

RED CROSS LIBRARY GIFTS.—The Library Committee of the British Red Cross Society report that during the year ending on Sept. 30th last, 1443 hospitals and kindred institutions were supplied with libraries. Sir Arthur Lawley's wireless appeal brought in over 48,000 books and magazines, and 379,000 were distributed during the year.

# Obituary.

## JOSEPH ARDERNE ORMEROD, M.D. OXF., F.R.C.P. LOND.,

CONSULTING PHYSICIAN, ST. BARTHOLOMEW'S HOSPITAL AND NATIONAL HOSPITAL FOR PARALYSIS AND EPILEPSY; REGISTRAR, ROYAL COLLEGE OF PHYSICIANS OF LONDON.

DEATH has removed from our ranks a distinguished physician and scholar in the person of Dr. J. A. Ormerod, the Registrar of the Royal College of Physicians of London.

Dr. Ormerod, who was born in 1848, was the eldest surviving son of the Venerable T. J. Ormerod, Archdeacon of Suffolk, and brother of the late Miss Eleanor Ormerod, the well-known agricultural entomologist. He was educated at Rugby under Dr. Temple, and entered Oxford as a classical scholar at Corpus Christi College, where he won many classical distinctions, including the Chancellor's Prize for Latin verse. Being elected a Fellow of Jesus College, he decided to take up natural science and obtained a first class in the Natural Science Tripos in 1871. He then entered the medical school of St. Bartholomew's Hospital, where he qualified, taking also the M.B. Oxf. in 1875. He was appointed medical registrar to the hospital, took the M.R.C.P. in 1877, and was elected assistant physician in 1893, his tenure of the post of medical registrar being marked by the issue under his authorship of the medical statistics in connexion with St. Bartholomew's Hospital for the five years 1887–92. The period was one in which neurological researches in connexion with clinical medicine were proving particularly fruitful, and the famous work of Hughlings Jackson, David Ferrier, and Victor Horsley was revolutionising both accepted views and actual practice. Ormerod decided to specialise in the study of diseases of the nervous system and was elected physician to the National Hospital for Paralysis and Epilepsy. At this period the staff of the hospital comprised all those just mentioned, while Bastian and Buzzard were also among the consultants.

Both at St. Bartholomew's Hospital and at the National Hospital he displayed the same qualities of quiet acumen, correlating symptoms of all his cases with the other factors, and never fearing to give reasons for the opinions at which he arrived. His accuracy of diagnosis was very high, and those who have attended his demonstrations at the National Hospital will remember many occasions on which his methods of approaching a case, his judgment of the facts, and his prognostications of the probabilities proved a revelation to them, teaching them never forgotten lessons. An epitome of this side of Ormerod's work will be found in his Guide to the Diseases of the Nervous System, published now over 30 years ago. Elected a Fellow of the Royal College of Physicians in 1885, he was marked out by his learning and qualities for appointment to examinerships and official lectureships. He examined for the University of Oxford and for the Royal College of Physicians of London, delivered the Harveian Oration and Lumleian Lectures at the Royal College of Physicians of London, and was also a President of the Neurological Section of the Royal Society of Medicine. In the Harveian Oration he followed the usual custom of paying tribute to Harvey and then introducing to the notice of the audience a subject of general medical interest. He took up the vast subject of heredity in relation to disease. There has been much detailed work done along these lines during the 17 years which have elapsed since Ormerod delivered his message, but many of the questions which he then asked remain to be settled, while no better introduction to the work in this direction of Galton, Karl Pearson, Mendel, and Bateson can be found. Similarly a scholar's treatment of the great and difficult subject of hysteria marked Ormerod's Lumleian Lectures. In those lectures he concentrated attention on the developments associated with the work of Janet and Freud, and while the researches of the former appealed more strongly to him, he did due justice to the latter's profound investigations into the problems involved. His critical spirit led him to outline, however, various objections to which Freud's theories were and are open, and beneath the polish of the essays, imposed upon him by his scholarship, it is not difficult to detect impatience with certain Freudian exuberances.

In 1909 his term of active office at St. Bartholomew's Hospital closed with his election as Registrar of the Royal College of Physicians of London, on the resignation of the late Dr. Edward Liveing. During the 15 years that have elapsed many changes and developments occurred in medical education and in every department of the work of the College, and with them came continually increasing demands on the Registrar. Ormerod never stinted himself in his devotion to his duties; his industry was unwearying and the claims of hospital and private practice were allowed to give way to the calls of his duties as Registrar, when he was appointed consulting physician to both the great hospitals where his clinical work had been done.

One of his colleagues at the College writes: "Ormerod had a full and intimate knowledge of all matters relating to the medical curriculum, and to College laws and traditions, and there was no one of the Presidents who reigned in turn during Ormerod's tenure of office, who was not glad to avail himself of his good judgment and advice. He was for many years, and up to the time of his death, a member of the Committee of Management of the Conjoint Examination Board, and at one time its chairman. And although he was of a non-assertive and retiring disposition, he never failed to form a well-thought-out and decided opinion on any College matter that came before him, and was tenacious in holding to his judgment; when he felt it his duty to do so he urged his views and opinion in the most conciliatory manner. When a decision was come to he set out at once to carry it into practice with the same ready loyalty whether or no it was in conformity with his own wishes. His amiable disposition and his kindly nature made friends of all who knew him and endeared him to those colleagues who were most closely connected with him in carrying on the business of the College. The time and labour he gave to College work is known only to them—he spared no pains and no efforts. During part of the year 1923 his health prevented him from giving his usual daily attendance at the College, but he managed to get through such part of his routine as was possible at his home and came back to regular work in November last, since which time he carried out his full duties with his usual energy and was at work till four days before his death. The influence of Dr. Ormerod's work was much more than was apparent, and his loss will be long felt and will be difficult to replace."

For so learned a man and so competent a writer Ormerod was not a profuse author, but he contributed articles on epidemic cerebro-spinal meningitis, tabes dorsalis, and hysteria to Allbutt and Rolleston's "System of Medicine," and a comparatively small number of clinical articles to THE LANCET and other medical journals. In all that he wrote he appeared as one of the leading neurologists of the country. It is significant that, when authority or support is required by writers for a statement of their own, the reference is frequently to one of Ormerod's papers.

Dr. Ormerod married, in 1878, Mary Ellen, daughter of Edward Milner, F.L.S., of Dulwich, who died at the beginning of the year. By her he had four sons and four daughters. One of his sons is Chief Constable of Sussex, and one is Professor of Greek in the University of Leeds. One of his daughters married Dr. J. B. Christopherson.

## J. J. GRAHAM BROWN, M.D., F.R.C.P. EDIN.

BY the death on Feb. 28th of Dr. J. J. Graham Brown, consulting physician to the Royal Infirmary, at his residence in Edinburgh, another link between the old school of medicine and the new is severed. Graham Brown was born in Edinburgh in 1853 and was a son of the Rev. Thomas Brown, D.D., who is still remembered in Scotland by his work, "The Annals of the Disruption." He was educated at the Edinburgh Academy, afterwards proceeding to Edinburgh University, where he graduated M.B., C.M. in 1875. After holding the usual hospital appointments, together with the office of Senior President of the Royal Medical Society, he went abroad and studied in the Universities of Berlin, Vienna, and Prague. On his return in 1880 he settled down in practice as a physician in Edinburgh. In 1882 he was elected a Fellow of the Royal College of Physicians of Edinburgh. During an epidemic of cholera prevailing in Spain in 1885 Dr. Graham Brown was selected as a member of the commission of investigation appointed by the Royal Society, and with Prof. Charles Sherrington and Prof. C. S. Roy carried out valuable research work on the spot. Later he collaborated with Prof. Roy in the study of the capillary blood pressure. In 1897 he was appointed assistant physician to the Royal Infirmary, Edinburgh, and in 1912 became full physician in charge of wards; this post he occupied till 1919, when he was appointed to the consultant staff. During a great part of his time at the Royal Infirmary he was medical attendant to the nursing staff of the hospital, and for the long period of 44 years he held the post as principal medical officer of the Scottish Life Assurance Company.

Dr. Graham Brown was a successful and experienced teacher of clinical medicine, and his lectures will be remembered by his students for the comprehensive detail with which they were furnished. He was also for many years University lecturer in neurology. His contributions to medical literature were considerable. Amongst them are: "A Manual of Clinical Methods," a treatise which reached its fourth edition in 1897, and "The Treatment of Nervous Diseases" (1905). In this book the author endeavoured—and his endeavour was successful—to stimulate independent thought concerning rational treatment of nervous disease. The basis of this treatment was the author's belief that the physiological function of the particular part of the nervous system which in each individual case happened to be affected determined the variety of treatment required. Contributions to journals include "The Therapeutics of Diphtheria, an Experimental Enquiry," "On Change in the Circulation Produced by Rise of Temperature," "The Perigraph, an Instrument for Delineating the Shape of the Thorax," and "Ataxia: a Symptom." In addition his non-medical writings were many and varied. He acted as President of the Royal College of Physicians of Edinburgh from the years 1912 to 1914 and in 1912 and 1918 delivered the Morison lectures to the College, and was a Fellow of the Royal Society of Edinburgh. He was at all times essentially a skilful physician of sound judgment and common sense. In manner he was modest and unassuming, and his work was at all times characterised by earnestness and accuracy.

He is survived by three sons and one daughter, the eldest son being Prof. T. Graham Brown, of the Welsh National Medical School.

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## THOMAS LOWE BUNTING, M.D. EDIN., B.HY., D.P.H. DURH.

Dr. Thomas Lowe Bunting, honorary physician in charge of the X ray department at the Sick Children's Hospital, Newcastle-on-Tyne, died recently from angina pectoris at the age of 57. Born at Heanor in Derbyshire, he graduated M.B., C.M. at Edinburgh University in 1889, and after a short period as asylum medical officer near Buxton he settled down in general practice in Newcastle. In 1904 he proceeded to the M.D., gaining a gold medal for a thesis on the Histology of the Lymphatic Glands, which was the fruit of a comparative investigation over a very wide field in the animal kingdom, and his work won for him, in addition to University honours, the Fellowship of the Royal Society of Edinburgh. In 1911 he took the degree of Bachelor of Hygiene and the Diploma of Public Health, both with honours, at the University of Durham, and shortly afterwards turned from general practice to the study of radiology. Just before the outbreak of the war he had become radiologist to the Sick Children's Hospital at Newcastle. In the autumn of 1914 he was appointed radiologist to the Northumberland War Hospital, where he developed and maintained the efficient service of the department in his charge. His contributions to radiological journals on radiological methods of treatment and diagnosis of disease demonstrated both his scientific skill and his powers of deductive reasoning. Dr. Bunting was also interested in social questions, an interest which dated from his student days when he was associated with Prof. Patrick Geddes's work in founding the Town and Gown Association, for promoting students' sympathies in the welfare of the poor of Edinburgh.

In medical politics he was a leading figure in North-Eastern England, and of this branch of his activities a colleague writes: "Dr. Bunting was first interested in medico-political matters through his being on the old Northumberland Contract Committee before it was taken over by the British Medical Association. The agitation in 1912 over the National Health Insurance Act came to him as a call for work on behalf of the profession. This led to his devoting an increasing amount of thought and time to medical politics. He became secretary of the Newcastle Panel Committee and one of the elected medical representatives on the Newcastle Insurance Committee and secretary of the North-Eastern group of panel committees. In Newcastle he was the guide and adviser of the panel committee in general and of many individual doctors in particular."

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## ALFRED JOHN SMITH, M.B., CH.B. R.U.I., F.R.C.S. IREL.

THE death of Dr. Alfred Smith, professor of midwifery in University College, Dublin, occurred on Feb. 20th in Dublin after a very brief illness at the age of 59. For some years he had been much troubled with a painful and crippling form of arthritis, but his general health remained good. Two days before his death he was struck down by pneumonia, and he rapidly succumbed. A native of Co. Cavan, Alfred Smith was educated at the Cecilia-street School of Medicine in Dublin, and he also studied at Vienna, Berlin, and Leipzig. In 1884 he graduated in medicine and surgery in the Royal University of Ireland, and became M.A.O. the following year. Shortly after qualification he served for three years as assistant Master in the Rotunda Hospital under the late Sir Arthur Macan. In 1891 he was appointed professor of midwifery in the Cecilia-street School of Medicine, and since 1908 he has held the chair of midwifery in the School of University College. He was for many years gynæcologist to St. Vincent's Hospital and only retired from that post last year. He had been more than once President of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, and while his health allowed he rarely missed one of its meetings. He also contributed many papers to its Proceedings, and wrote widely on his specialty in gynæcological and medical journals. A man of much vigour and originality of thought, Alfred Smith was a skilful and bold surgeon and a very successful teacher. In spite of severe physical disability in recent years he continued to perform as much of his work as was possible, and maintained a cheerful courage which commanded admiration.

## CLAUDE BUCHANAN KER, M.D., F.R.C.P. EDIN.,

MEDICAL SUPERINTENDENT, CITY HOSPITAL, EDINBURGH.

IT is with deep regret that we have to announce the death of Dr. Claude B. Ker, from pneumonia, on March 4th, in his fifty-eighth year. His untimely death is a grievous loss to the City of Edinburgh and to its medical school.

Claude B. Ker was born and educated at Cheltenham and was the son of Dr. Claudius Buchanan Ker. He studied medicine at Edinburgh University, where he graduated M.B., C.M. in 1890. After holding house appointments in the Royal Infirmary and in the Simpson Memorial Hospital, he became interested in mental work and took the certificate of the Medical Psychological Association in 1891. Impressed by the possibilities presented by the study of infectious diseases his interest turned to this branch of study, and in 1896 he wrote his M.D. thesis on typhoid fever, for which he was awarded a gold medal. In that year he succeeded Dr. Wood as superintendent at the old fever hospital at High School Yards, Edinburgh, a post which was both difficult and dangerous; in fact, Dr. Wood also died of pneumonia in the prosecution of his duties. Dr. Ker saw possibilities of providing the city with a fever hospital worthy of its traditions and its medical school, and with the aid of the late Sir Henry Littlejohn, then medical officer of health, and of the late Baillie Pollard, he worked hard and unceasingly till in 1903 he saw his object achieved when the fever hospital, in its unsatisfactory position in Infirmary-street, was closed down and the splendid set of buildings to the south of Edinburgh, well removed from the city itself, were opened as the City Fever Hospital.

He became a Member of the Royal College of Physicians of Edinburgh in 1898 and was elected a Fellow of the College in 1901, and later became a member of the Council. He represented the College on the infirmary board of management and on the Scottish Board of the College of Nursing. He was University lecturer in infectious diseases. As a research worker he showed the most thorough care in details, and he was a pioneer in introducing in this country the Schick test. He was the author of "A Manual of Fevers" and "Infectious Diseases, a Practical Textbook," and by these two books he will be long remembered. "A Manual of Fevers" was first published in 1911 and the second edition appeared in 1922. Although primarily intended for the use of students, the manual has more than justified the hope expressed by the author in his first preface, "that it might not cease to be useful when its owner had entered upon general practice." The first edition of "Infectious Diseases" appeared in 1909. It is an authoritative and valuable book dealing with the diseases commonly met with in the British Isles, and is clearly the work of a skilful, observant, and experienced physician. The second edition, adequately supplemented by a study of recent contemporary literature, was published in 1920. His contributions to medical journals were numerous, and include "Naphthols in Enteric Fever," "An Outbreak of Typhus Fevers," "Isolation and Quarantine Periods." To our own columns he made editorial contributions whenever requested, and it happens pathetically that one such article appears this week. His medical reputation in the specialty of infectious diseases is not confined to Britain, for his works are well known abroad, especially in America, as University lecturer on infectious diseases.

We are indebted to Dr. Andrew Balfour for the following appreciation. He writes: "I would like to tell, albeit briefly and imperfectly, what manner of man was 'Claude B' and how he came to gain the affection and esteem of all who came closely into touch with him. Ker was intensely alive, intensely human, full of humour and sympathy, and utterly devoid of anything savouring of advertisement or self-seeking. Withal he was a man of great force of character with strong likes and dislikes and capable—very capable, of standing up for what he conceived to be the right. Yet he very rarely found himself in conflict, for he possessed much tact and discretion and a store of patience which time and again stood him in good stead. I first met him in 1896 when, having been appointed assistant physician at the Edinburgh City Hospital, I called at the Old Pest House, as we called it, at the foot of Infirmary-street to be interviewed by the medical superintendent. I was shown into a small room and presently there entered with a brisk step and a curious swing of the body a man of medium height who wore a monocle through which an eye afflicted, though not unpleasingly, by an internal strabismus surveyed me searchingly. He wore a blue velvet tasselled skull cap, was clad in a long white overall, and carried a wooden stethoscope of prodigious length. He spoke like an Englishman, kept flicking cigarette ash on the floor, and his manner was decisive, even a little brusque. He seemed to me rather nervous, and I gathered he did not quite approve of my appointment, which had been made at the instance of Sir Henry Littlejohn. Certainly he made it quite plain that I was there to carry out his instructions, though he indicated, also quite clearly, that he realised I might have views of my own and that he was prepared to accord them every consideration. As I told him long afterwards, my first thought was, 'How can I work under this man?' Yet very soon I had fallen, as did all his assistants and all his residents, under the spell of his personality. I realised that his was a choice spirit, that he was possessed of much originality of mind, that he was well-read and erudite, that he had wide interests, and that he was gifted with vision, though in no sense of the word a visionary. I had some slight acquaintance with French history and I found that Ker was a great student of the Napoleonic era and I never tired of hearing him descant on Buonaparte's strategy and recounting how he had secured the prints, statuettes, and relics with which his room was filled. Beyond doubt he might have been an admirable professor of military history, for he had a flair for tactics, and it was probably his military bent which led him to take a Commission, first in the Volunteers and then in the Territorials. He was interested in sport and athletics, especially in Rugby football, had a keen sense of humour, and wrote most amusing and delightful letters in verse and prose.

"We soon formed a friendship which stood the test of time and distance, and the memory of which will ever remain precious and fragrant. But Ker had a host of friends. It was the custom then, and I understand it remained a custom, for his old residents to gather in his room on Sunday nights. No more profitable evenings can be imagined than these informal gatherings in the venerable building full of memories of Sir Walter Scott, of the anatomist Knox, and of Burke and Hare, the West Port murderers; Ker delighted in the history of the dingy pile, as he delighted in everything pertaining to Edinburgh, for, though not a son of the city, though not a pure-blooded Scot, and though educated at an English public school, the fascination of Auld Reekie held him in its grip.

"It was largely Ker's efforts that made the present City Hospital a credit to Edinburgh, while it is undoubtedly due in the main to him that it attained such a high degree of efficiency. No man was ever more popular with his staff. He had a way of getting the best out of them and set an example of devotion to duty and of tireless yet painstaking energy which acted as a stimulus to all. He found relaxation chiefly in his family life, in travel, and in the society of his friends. At home he was a member of a small literary club which, beginning as the Heptagon, became an Octagon. Its membership was confined to a few medical men who met at each other's houses. He never missed a meeting throughout the 25 years of the club's existence."

Stricken with influenza Ker would not give in, for he had under his charge a desperate and septic case of scarlet fever in which he was deeply interested. Despite vile and inclement weather he was up and about until literally driven to the bed where he died. His memory will remain ever green in the hearts of those who knew his worth and valued his company and his friendship.

The fine City Hospital stands as a fitting memorial to his memory. He is survived by his widow, two sons and three daughters, to whom we extend our sympathy.

# Medical News.

UNIVERSITY OF CAMBRIDGE: *Pinsent-Darwin Studentship in Mental Pathology.*—This studentship was founded in 1924 by the benefaction of Mrs. Pinsent and Sir Horace and Lady Darwin for the purpose of promoting research into any problem which may have a bearing on mental defects, diseases, or disorders. The studentship is of the annual value of about £200 and is tenable for three years in the first instance. The student may be of either sex and need not be a member of the University of Cambridge. He shall engage in original research in Cambridge or elsewhere, but may, subject to the consent of the managers, carry on educational or other work concurrently. Further particulars of the studentship may be obtained from the Registrary of the University of Cambridge, and applications for appointment to the studentship should be sent before May 1st, 1925, to the Secretary, Pinsent-Darwin Studentship, Psychological Laboratory, Cambridge.

UNIVERSITY OF LONDON: *London Hospital Dental School.*—A special lecture Concerning Misplaced Teeth will be given by Mr. W. H. Dolamore, L.D.S., on Tuesday, March 24th, at 5 P.M., in the anatomical theatre of the hospital. Members of the dental profession and students are invited to attend.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following demonstrations of specimens in the Museum will be given by Sir Arthur Keith in the theatre of the College in Lincoln's Inn-fields on Fridays at 5 P.M.: March 20th, Specimens illustrating the Surgical Anatomy of the Middle Ear; March 27th, Specimen illustrating the Commoner Congenital Malformations of the Lower Limb; April 3rd, Acromegaly and Allied Disorders of Growth. The demonstrations are open to advanced students and medical practitioners.

DISEASES OF CHILDREN.—A post-graduate holiday course of clinical lectures, arranged by the Faculté de Médecine of Paris, on diseases of children will be held at the Hôpital des Enfants Malades, from April 6th to 18th. Further information may be obtained from the hospital, 149, Rue de Sèvres, Paris.

GUY'S HOSPITAL DENTAL SCHOOL.—A dental travelling scholarship, enabling the holder to take out a course of at least six months' practical work in dental surgery at one or more colonial or foreign dental schools, will be awarded by the treasurer, upon the recommendation of the Dental Council, in July, 1925. Candidates must be registered Licentiates in Dental Surgery of the Royal College of Surgeons of England or holders of a dental degree of a British university who have been educated at Guy's Hospital Dental School. The total value of the scholarship will be £250. Further information may be obtained from the Treasurer, Guy's Hospital, London, S.E. 1.

ROYAL DEVON AND EXETER HOSPITAL.—It is hoped that during the present year a department for the treatment of cancer will be opened at this hospital. A deep therapy apparatus has been fitted up, and arrangements are being made for a supply of radium. Some of the beds have had to be closed for lack of money.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—Erected in 1881, this fine building in the Dyke-road, Brighton, required important replacements during the past year, so that the year ended with a bank overdraft of £1094. At the annual meeting of the governors on Feb. 27th Mr. Harry Preston, who presided, promised to undertake the liquidation of the debt. The governors accorded cordial recognition for the help rendered by the Sussex Provident Scheme to the finances, and agreed to make a contribution towards the salary of an appeal secretary for the fund, as it was realised that the membership of the scheme might be greatly extended to the advantage of all the coöperating hospitals.

CHELSEA CLINICAL SOCIETY.—A meeting of this society will take place at the Club Room, St. George's Hospital (entrance in Knightsbridge), on Tuesday, March 17th, at 8.30 P.M. precisely, when a discussion on Some Diseases Common to Old Age will be opened by Dr. Leonard Williams and Mr. Kenneth Walker.

Mr. Percy Dunn, on resigning the editorship of the *Bulletin* of the Fellowship of Medicine, has been unanimously elected by the Executive Committee an honorary member of the Fellowship, in recognition of his services during the past five years.

ITALIAN CONGRESS OF MEDICAL RADIOLOGY.—The Sixth Italian Congress of Medical Radiology will be held in Trieste from May 7th to 10th. Communications will be read on the Radiology of the Biliary Passages, by Prof. Pasquale Tandoia, of Naples; on the Radiology of Lung Affections, by Prof. G. Pesci, of Genoa; and on the Radiotherapy of the Endocrine Glands, by Prof. E. Milani, of Rome. Full particulars may be obtained from the President of the Congress, Dr. Maximilian Gortan, at the Ospedale Civico Regina Elena, Trieste, Italy.

ROYAL SOCIETY OF MEDICINE.—The adjourned discussion on the opening papers of the general debate on Non-Specific Disturbances of Health due to Vitamin Deficiency, which was held by the Society on Feb. 16th, will be resumed on Monday, March 23rd, at 5.30 P.M., at 1, Wimpole-street, W. The papers read on Feb. 16th by Dr. Leonard Williams, Colonel Robert McCarrison, Dr. W. Cramer, and Dr. G. M. Findlay were reported in THE LANCET of Feb. 21st, p. 385. The original speeches can be read in full in the March number of the Society's Proceedings, and those who wish an epitome can obtain galley slips on application at the Society's office. The subject will again be opened by Dr. Williams, and the first speakers in a general discussion of these papers will be Dr. William Hunter and Dr. Robert Hutchison.

*Nichols Prize.*—In accordance with the will of the late Dr. Robert Thomas Nichols, the Royal Society of Medicine will offer, every three years, a prize of £250, open to any British subject, for the most valuable contribution towards the Discovery of the Causes and the Prevention of Death in Childbirth from Septicæmia. The first award of the prize has been made to Dr. George Geddes, of Heywood, Lancs, for his essay entitled the Causation, Prevention, and Treatment of Puerperal Septicæmia. Work submitted for the next award should reach the secretary of the society not later than Oct. 1st, 1927, and must be marked "Nichols Prize." It must be typewritten or printed, in English, and accompanied by the name and address of the author. Work already published may be submitted, provided that publication was not earlier than Oct. 1st, 1924. If no work of sufficient merit be submitted, the prize will not be awarded.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—A discussion on Post-graduate Study in London will be held at the house of the Royal Society of Medicine, 1, Wimpole-street, W., on March 18th, at 6 P.M. Sir Arbuthnot Lane will preside, and the freest criticism will be welcomed of the present facilities offered through the Fellowship with suggestions for their improvement. It is hoped that a large attendance of the medical profession, whether resident at home or overseas, will take part in the discussion.—Syllabuses of the following courses during March are now available: A course at the Brompton Hospital for Consumption and other Diseases of the Chest from March 16th to 28th; special reference to treatment by artificial pneumothorax will be made, but other diseases of the lungs besides phthisis as well as diseases of the heart will be dealt with and illustrated by frequent demonstrations of cases.—A course in Gynæcology will be held at the Chelsea Hospital for Women from March 16th to 28th, which will include clinical lectures and demonstrations and the opportunity of witnessing typical operations.—An intensive post-graduate course, including all departments of the practice of an active general hospital, will be held at the Royal Northern Hospital from March 23rd to April 4th. It will comprise demonstrations, clinics, operations, exhibitions of selected cases as well as formal lectures. Application for admission to the course should be made by March 16th.—During April there will be courses held at the Queen's Hospital for Children, St. Mark's Hospital for Diseases of the Rectum, and at the Hampstead General Hospital.—A practical course in Anæsthetics is being arranged and will begin approximately on March 23rd. The course will continue for a week, and opportunity will be afforded for post-graduates to obtain instruction in throat, nose, dental, abdominal, and nerve anæsthesia. Early application is desirable. Further information as to courses may be obtained from the Secretary to the Fellowship, 1, Wimpole-street, London, W.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this Society will be held to-day, Friday, at the Miller General Hospital, Greenwich, S.E., at 8.45 P.M., when a paper on Some Interesting Abdominal Cases will be read by Mr. Hugh Davies. Dr. H. S. Knight, the President, will occupy the chair.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—The area of operations of the King's Fund has been extended from a radius of nine miles of Charing Cross to a radius of 11 miles of St. Paul's Cathedral. Hospitals within this area, desiring to participate in the grants made by the Fund for the year 1925, must make application before March 31st to the Hon. Secretaries of the Fund, at 7, Walbrook, E.C. 4. Applications will also be considered from convalescent homes which are situated within the above boundaries or which, being situated outside, take a large proportion of patients from London.

ENTRY OF TUBERCULOUS IMMIGRANTS INTO SOUTH AFRICA.—A resolution has been adopted at a recent meeting of the Council of Public Health of Pretoria to the effect that more drastic steps should be taken to prevent tuberculous immigrants from entering the Union of South Africa, and that the plan adopted by Canada should be followed by the Union. Under this scheme all immigrants are examined by the ship's surgeon during the voyage, and a report on each is furnished to the immigration officer and port health officer at the port of arrival.

ROYAL SANITARY INSTITUTE.—A sessional meeting will be held on Friday, March 27th, in the Town Hall, Leicester, when discussions will take place on Maternity and Child Welfare Work, to be opened by Dr. Helen Dent, maternity and child welfare medical officer, and Mrs. C. J. Bond, J.P., and on Smoke Abatement, to be opened by F. G. McHugh, chief sanitary inspector. The chair will be taken at 3.30 P.M. by Prof. H. R. Kenwood. On Saturday, March 28th, visits will be paid to local health centres and various public institutions. Those proposing to attend the meetings and the visits should notify the hon. local secretary, Dr. C. Killick Millard, medical officer of health, Health Department, Grey Friars, Leicester, not later than March 20th.

ARTIFICIAL SUNLIGHT FOR LEEDS.—In THE LANCET of Jan. 3rd attention was called to he need of "artificial sunlight" treatment at Leeds Genera Infirmary. The lack is now about to be supplied by two donors, one of whom has undertaken to provide all the ecessary apparatus, while the other has contributed a sum sufficient to erect a new building which will house the deep X ray therapy department already in existence and the new appliances for the adoption of the ultra-violet ray treatment. The new building will contain five large rooms equipped for the sunlight treatment, together with dressing and waiting rooms and offices, and five cubicles for X ray treatment of malignant disease. It is expected that the extersion will be completed in about three months.

A GROUP of medical officers of health for the London boroughs have visited the Oxo factory, where the processes of manufacture of the products were explained and a demonstration was given of the way in which the "oxoid" gland preparations are physiologically standardised. A cinema film of life on the Oxo cattle farms was also shown. Dr. D. L. Thomas, M.O. for Stepney, in returning the thanks of the visitors for an interesting afternoon, stated that they were all impressed with the high standard of hygienic conditions existing in the factory, the quality of the preparations, and the trouble taken in looking after the comfort and happiness of the workers. We understand that further visits are being arranged, and any of our readers desirous of availing themselves of these opportunities should communicate with Oxo Limited, Southwark Bridge, S.E.

THE LATE DR. J. W. SMITH.—John Williamson Smith, M.D. Glasg., of Radcliffe, Lancs, honorary ophthalmic surgeon to the Bury Infirmary, died in distressing circumstances on Feb. 28th as the result of accidental poisoning by the exhaust gases of his motor-car. On the previous afternoon he was found unconscious in his garage, and medical aid did not avail to save his life. It was stated at the inquest that while making some adjustment to his car, as the engine was running, he had inhaled the carbon monoxide of the exhaust fumes. Dr. Smith was a native of Glasgow, and was 45 years of age. He graduated M.B., Ch.B. at Glasgow University in 1902, and obtained the M.D. with commendation in 1908. He practised for 22 years in Radcliffe, and in addition to the work of general practitioner he specialised in diseases of the eye. His sad and untimely death is deeply regretted by his colleagues and friends.

METROPOLITAN ASYLUMS BOARD.—A three-months course of lectures and demonstrations dealing with hospital administration for the Diploma in Public Health will be given at the North-Western Hospital, Lawn-road, Hampstead, N.W., by Dr. E. W. Goodall, medical superintendent, on Mondays and Thursdays at 4.45 P.M., and alternate Saturdays at 10.30 A.M., beginning Monday, April 6th. This course complies with the requirements of the revised regulations of the General Medical Council.

PROBLEMS OF HOSPITAL FINANCE AT PLYMOUTH.—At a recent conference of members of the boards of management of the local hospitals, the Plymouth Voluntary Hospitals Committee, and others, Lord Onslow, the chairman of the Voluntary Hospitals Committee, expressed his belief that mass collections were the only means by which a really considerable increase of income could be obtained. It was essential to broaden the basis of subscription and to reduce expenditure by organisation and coöperation. He promised to discuss with his colleagues the possibilities of recommending a Government grant for the training of nurses. Mr. S. R. Lamb, explaining the working of the penny-in-the-pound system in that city, said it was neither an insurance society nor a slate club, and it was not pretended that it was actuarily sound.—The annual report of the Plymouth Voluntary Hospitals Committee records that the two closed wards at the South Devon and East Cornwall Hospital have been reopened, and that a ward in the Homœopathic Hospital has been brought into use. The penny-in-the-pound scheme, launched in 1923, has progressed beyond expectation and now has well over 20,000 members and promises to be much larger, since the scheme is now establishing itself in the country districts. During the past financial year the contributory scheme patients cost the hospitals £8697, towards which it provided £7632.

DONATIONS AND BEQUESTS.—Mr. William Morgan Lewis, J.P., colliery proprietor, Cardiff, left £1250 to King Edward VII. Hospital, Cardiff, for the endowment of a Dorothy Lewis bed, in memory of his late daughter.—Mr. Charles Arthur Head, Stockton-on-Tees, left £500 to the Stockton and Thornby Hospital, and £100 each to the Ropner Convalescent Home and the National Society for the Prevention of Cruelty to Children.—The Right Hon. William Drennan Andrews, a judge of the Irish High Court, besides other bequests, left £500 to the Royal Victoria Eye and Ear Hospital, Dublin, £300 each to Sir Patrick Dun's Hospital, the Rotunda Hospital, the Royal Hospital for Incurables, the National Children's Hospital, the Stewart Institution for Idiot and Imbecile Children, and the Cumber District Nursing Society, Dublin, and £200 each to the Charitable Infirmary, Dublin, and the Royal National Hospital for Consumption for Ireland.—Dr. John B. Stelfox, of Birkdale, has made a gift of £2000 to the North of England Children's Sanatorium at Southport for the endowment of two beds for the benefit of children of Middleton and Lees.—The students of the University of Liverpool on Panto Day raised £3800—a record figure—for the hospitals.—Sir William Earnshaw Cooper, C.I.E., Guernsey, who left estate of the gross value of £55,085, gave 30,000 rupees to the Ramsay Hospital, Naini Tal, India, for the maintenance of the Cooper Ward for poor and non-paying patients; 10,000 rupees each to the Summer Home for Soldiers' Children, Mussori, and Allahabad Free School and Orphanage. After the fulfilment of a number of personal bequests, the residue of the property to his wife for life, and then as to one-half to Dr. Barnardo's Homes.—An anonymous donor has given £3500 in trust securities to the Manchester Royal Infirmary, the income to be used for the purchase of apparatus for the X ray department.—The Manchester University students' "rag" on Shrove Tuesday produced some £5808 for the medical charities of the city, or more than double the collection last year.—By the will of the late Mrs. Margaret Alice Dalton-Burgess, of Bristol, the testator left £2000 to the Zenana Bible and Medical Mission, and after certain bequests and private legacies the residue of the estate to, amongst other charities, the Cossham Memorial Hospital, Bristol, the Bristol Eye Infirmary, the Children's Hospital at Bristol, the Bristol Royal Infirmary, the Bristol General Hospital, the Clifton Zoological Gardens, and a further £2000 to the Zenana Bible and Medical Mission.—Mrs. Sarah Scholes Wrigley, of The Wood, Windermere, Westmorland, left £1000 each to the Royal Asylum, Lancaster, and the Royal National Lifeboat Institution, £500 each to the Westmorland County Hospital, Kendal, the Dispensary Hospital, Bury, the Manchester Royal Eye Hospital, the Manchester Domestic Mission, Manchester College, Oxford, the United Kingdom Beneficent Association, Railway Servants' Benevolent Institution, the Brompton Cancer Hospital, London, the Queen's Hospital for Sick Children, Hackney, London. Half of the residue of her property, after private bequests, she left equally between the above-named charities. The total sum available for charities will amount to about £40,000.

MENTAL AFTER-CARE ASSOCIATION.—The annual meeting of this Association will be held on Wednesday, March 18th, at 3 P.M., at the Clothworkers' Hall, Mincing-lane, London, E.C. The chair will be taken by Sir Charles C. Wakefield, President of the Association.

MEMORIAL TO DR. F. W. A. GODFREY.—An appeal for a fund for establishing a memorial to the late Dr. F. W. A. Godfrey has been issued by the Mayor of Scarborough and other influential local signatories, the object being to associate with Dr. Godfrey's name an endowment of new beds in the Scarborough Hospital, or to make any other permanent provision for an institution to whose interests Dr. Godfrey was for 30 years devoted. Contributions amounting to nearly £500 have already been received, and cheques payable to the Godfrey Memorial Fund should be sent to Mr. William Boyes, the Mayor of Scarborough, at the town hall of the city.

SPIRITUAL HEALING.—In July, 1924, a group of medical men was formed to make an investigation into this subject in order to prepare and issue a statement on the question. Conferences with representatives selected by the churches are being held, and other avenues of research are being explored. The members of the group are: Sir Robert Armstrong-Jones, Dr. Helen Boyle, Dr. H. C. Bristowe, Dr. William Brown, Dr. Charles Buttar, Mr. W. McAdam Eccles, Dr. Letitia Fairfield, Dr. E. R. Fothergill (chairman), Dr. J. G. Porter-Phillips, Dr. Mary Scharlieb, Sir J. Purves-Stewart, Mr. E. B. Turner, Dr. Jane Walker, and Dr. Stanley Bousfield, hon. secretary, to whom communications may be addressed at 10, Albion-street, London, W. 2.

# The Services.

## ROYAL ARMY MEDICAL CORPS.

MILITIA.

Capt. J. A. Pridham to be Maj.

TERRITORIAL ARMY.

Capt. R. W. Smith resigns his commn. and retains his rank.

Capt. J. H. Iles (late R.A.M.C.) to be Lt.

L. C. F. Chevens to be Lt.

Lt.-Col. H. J. Walker resigns his commn. and retains his rank.

Lt. F. R. Daniel (late R.F.A.T.F.) to be Lt.

*Supernumerary for Service with O.T.C.*—Capt. A. Fowler (late R.A.M.C., S.R.) to be Capt., for service with the Medical Unit, Aberdeen University, O.T.C.

*Sanitary Companies.*—Capt. (Prov.) A. Massey resigns his commn.

TERRITORIAL ARMY RESERVE OF OFFICERS.

Lt. M. D. Mackenzie, from the Active List, to be Capt.

## ROYAL AIR FORCE.

L. C. Palmer-Jones and T. W. Wilson are granted short service commissions as Flying Officers, for three years on the Active List.

## INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED FEB. 28TH, 1925.

*Notifications.*—The following cases of infectious disease were notified during the week, namely:—Small-pox, 141; scarlet fever, 1729; diphtheria, 969; enteric fever, 33; pneumonia, 1306; puerperal fever, 54; cerebro-spinal fever, 7; acute poliomyelitis, 7; acute polio-encephalitis, 1; encephalitis lethargica, 61; relapsing fever, 1; dysentery, 3; ophthalmia neonatorum, 106. There were no cases of cholera, plague, or typhus fever notified during the week. The number of small-pox cases showed a decrease of 8 from the number for the preceding week. Twenty cases were notified from Derbyshire, 7 from Northumberland, 30 from Notts, 36 from Yorks, North Riding (Middlesbrough, C.B., 34), and 13 from Yorks, West Riding.

*Deaths.*—In the aggregate of great towns, including London, there were 4 deaths from enteric fever, 98 from measles, 18 from scarlet fever, 120 from whooping-cough, 39 from diphtheria, and 346 from influenza, as compared with 352, 354, 291, and 202 in the four preceding weeks. In London itself the deaths from influenza numbered 64, from whooping-cough 37, and from diphtheria 13.

# Parliamentary Intelligence.

## HOUSE OF LORDS.

TUESDAY, MARCH 10TH.

THERAPEUTIC SUBSTANCES BILL.

The Marquess of SALISBURY (Lord Privy Seal), in moving the second reading of the Therapeutic Substances Bill, said that it had passed through their lordships House last session very much in its present form, but unfortunately it did not pass through the House of Commons. The principle of the measure was to prevent users of certain therapeutic substances from being misled as to their character. If it was necessary to ensure a proper standard in regard to ordinary substances it was specially necessary in the case of therapeutic substances on which the health of the users depended. The medical profession could not be rightly advised as to what they were prescribing unless there was some standard in regard to these substances on which reliance could be placed. Some of these substances were highly poisonous unless they were prepared in properly graded quantities. These substances included sera, vaccines, and special preparations such as salvarsan. In many other countries, including Norway, Sweden, France, Germany, Italy, Spain, and the United States, the manufacture of these substances was subjected to most rigid inspection. Denmark had gone still further and there such substances were only allowed to be prepared in State institutions. The procedure proposed in the Bill was that these substances should be subject to licences both in respect of the persons who prepared them and the place in which they were prepared. The conditions under which they could be prepared were to be laid down in regulations which would be laid before Parliament. The regulations would be made by a joint committee consisting of the Minister of Health, the Secretary for Scotland, and the Minister for Home Affairs in Northern Ireland. An advisory committee was also to be appointed consisting of representatives of the three departments named and, in addition, one representative each of the Medical Research Council, the General Medical Council, and the Pharmaceutical Society. Certain substances used for research purposes would be obtainable for that purpose under licence at strengths other than the standard strength used for medical purposes. This subject had been before the appropriate authority of the League of Nations and they had decided to move the various Governments to protect the standard of purity of these therapeutic substances.

Viscount HALDANE called attention to Subsection 2 of Clause 3 which he said compelled a man of science who needed these substances for research to obtain a special licence in order to use them. In many cases scientists would want them at short notice, and from what he knew of these men they would not apply for licences. Thus, this subsection might interfere with very valuable research work, and he suggested that a special instruction should be given to the Government department concerned that where a scientist required a small quantity of a particular substance for the purpose of research, he should be allowed to obtain it without the necessity for a licence.

The Marquess of SALISBURY said the point raised by the noble Viscount would be most carefully considered by the Government, and he would see whether it was possible to deal with the matter in committee.

The Bill was read a second time.

## HOUSE OF COMMONS.

WEDNESDAY, MARCH 4TH.

*Medical Certificates for Motor Drivers.*

Mr. STEPHEN MITCHELL asked the Minister of Transport if he would introduce legislation to compel all applicants for a licence to drive motor vehicles to produce a medical certificate as to their mental and physical fitness.—Colonel W. ASHLEY replied: I am disposed to agree with the conclusion reached by the Departmental Committee on the Taxation and Regulation of Road Vehicles, as set out in their second interim report, that the difficulties in giving effect to the suggestion contained in my hon. friend's question render its adoption impracticable.

*Royal (Dick) Veterinary College, Edinburgh.*

Mr. J. B. COUPER asked the Secretary for Scotland the amount of grant paid annually by the Scottish Board of Agriculture to the Royal (Dick) Veterinary College, Edinburgh; and whether it will be affected by the decision to withdraw the annual grant from the Glasgow Veterinary College.—Sir J. GILMOUR replied: The annual grant paid to the Royal (Dick) Veterinary College by the Board is £4000,

or such smaller sum as will meet the deficit on the maintenance of the College. The grant sanctioned for the current year is £3722. The reply to the second part of the question is in the negative.

THURSDAY, MARCH 5TH.

*Permanent Medical Appointments.*

Major-General Sir RICHARD LUCE asked the Minister of Pensions what steps were being taken to make permanent medical appointments under the Ministry; and if English nationality and active service in the late war would be taken into special consideration in making selections for permanent appointments.—Lieut.-Colonel G. F. STANLEY (Parliamentary Secretary to the Ministry of Pensions) replied: It has been decided to create 48 permanent established appointments on the medical staff of the Ministry and to fill those appointments from the existing full-time temporary medical staff. All members of the full-time temporary staff who are within the prescribed age-limit of eligibility have been notified of the conditions of the appointments, and a Selection Committee presided over by the First Civil Service Commissioner is at present engaged in interviewing a selected number of the candidates. All candidates must satisfy the general rule of the Civil Service as regards British nationality and must have served in His Majesty's forces in the late war.

*Ex-Service Men in West Ham Mental Hospital.*

Mr. GROVES asked the Minister of Pensions whether the 52 ex-Service men, at present inmates of the West Ham mental hospital at Goodmayes, Essex, were chargeable to the local Poor-law union or whether they were maintained from national funds; and if so, to what amount weekly was the local authority reimbursed.—Lieut.-Colonel G. F. STANLEY replied: I understand that there are 50 Service patients, that is, men whose disability is due to war service, in the hospital referred to for whom the Ministry are paying the cost of maintenance and treatment at the rate of 33*s.* a week for each patient, in addition to allowances for wives or dependents.

*Pension Assessment Appeals.*

Mr. PIELOU asked the Minister of Pensions the number of appeals made to the assessment appeals tribunals from Jan. 1st to Dec. 31st, 1924, showing the number allowed by the tribunals and the number disallowed.—Lieut.-Colonel G. F. STANLEY replied: During the period referred to 35,390 appeals were decided by the assessment appeal tribunals, thus giving a proportion (excluding statutory final awards) of approximately one appeal out of every seven cases of final award notified. In 13,560 cases either the appeal was disallowed or the Ministry's assessment was reduced, or the appeal was not proceeded with by the appellant. In 11,360 cases the finality of the award was confirmed, though the assessment was raised, and in 10,470 cases the appellant succeeded to the extent that the tribunal decided that the cases were not yet suitable for final award.

*Double Inquiries in Coroners' Courts.*

Mr. DIXEY asked the Home Secretary whether he was aware that the present system of double inquiries of the coroner's court and the police court in murder trials, which often were held simultaneously, was very unsatisfactory to all concerned; and what steps he proposed to take with regard to the same.—Sir W. JOYNSON-HICKS replied: I hope to introduce a Bill very shortly to amend the law relating to coroners' inquests which will deal with this matter.

*The General Medical Council and Unregistered Practitioners.*

Mr. ARTHUR GREENWOOD asked the Prime Minister whether his attention had been called to the warning notice issued to registered medical practitioners by the General Medical Council purporting to give a summary of the resolutions and decisions of the Council upon forms of professional misconduct; whether he was aware that in consequence of the issue and circulation of that notice registered medical practitioners were deterred from assisting, by administration of anæsthetics or otherwise, qualified but not registered practitioners of osteopathy, bone-setting, and other new forms of treatment of human ailments; whether he was aware of the feeling of dissatisfaction amongst the general public and also amongst many medical practitioners with the exercise by the General Medical Council of its functions and powers conferred by Statute of 1858; and whether he was prepared to set up a commission or departmental committee of inquiry into the operation and administration of the various medical Acts, and the exercise by the General Medical Council of its functions and powers under such Acts, with a view to the introduction of such legislation as might be necessary to ensure the recognition and legal regulation in this country of osteopathy, bone-setting, and other new methods of treatment, and to safeguard both qualified practitioners and the general public.—Mr. CHAMBERLAIN replied: I understand that the warning notice to which the hon. Member refers was adopted virtually in its present form by the General Medical Council in 1897 and subsequent alterations have been merely verbal. The answer to the second part of the question is in the affirmative. As regards the third and fourth parts, while the application of the principles laid down in the notice to particular cases may have given rise to criticisms, there is no evidence of any general dissatisfaction among the public or the medical profession, and I see no necessity for the appointment of any commission or committee such as the hon. Member suggests.

Mr. GREENWOOD: Would the right hon. gentleman be good enough to ask the Prime Minister whether he would receive a deputation of some Members of this House?

Mr. CHAMBERLAIN: I suggest that the most convenient and practical course would be for him to make representations to the Minister of Health.

*Delay in Payment of Sickness Benefit.*

Colonel DAY asked the Minister of Health whether he was aware of the complaints arising from delay in payment of sickness benefit under the National Health Insurance Act to sick insured persons; and, if so, whether he would appoint a departmental committee to inquire into this matter.—Sir KINGSLEY WOOD replied: My right hon. friend is aware that some complaints have been made of delay in payment of benefit to insured persons who fall sick, and on receipt of any such complaints action is taken departmentally with the approved society concerned. My right hon. friend does not think it necessary to set up a departmental committee on the subject, which has already been brought to the notice of the Royal Commission on National Health Insurance.

*Milk and Dairies Acts.*

Mr. BARNES asked the Minister of Health whether he has decided to ask Parliament to continue the Milk and Dairies (Amendment) Act, 1922, or whether he was now prepared to recommend Parliament to put the Milk and Dairies Act of 1915 into operation.—Sir KINGSLEY WOOD replied: It is not proposed to ask Parliament to postpone further the operation of the Milk and Dairies (Consolidation) Act, 1915, which, under the provisions of the Act of 1922, will come into operation on Sept. 1st next. The other Act named in the question is not a temporary measure and will continue in force.

The Earl of DALKEITH asked the Secretary for Scotland whether it was proposed to postpone the bringing into operation of the Milk and Dairies (Scotland) Act, 1914; and, if not, whether any decision had yet been arrived at as to the appointed day on which it was to be brought into operation.—Sir J. GILMOUR replied: The reply to the first part of the question is in the negative. It is proposed to bring the Act into operation on Sept. 1st, 1925.

*Treatment of Diabetes in Scotland.*

The debate was resumed on the motion for the second reading of the Public Health (Scotland) Amendment Bill.

Mr. WILLIAM ADAMSON and Dr. DRUMMOND SHIELS again urged that the Bill should be made applicable to other diseases besides diabetes and that it should be possible to extend its operation without the necessity for a fresh Act of Parliament.

Captain ELLIOT (Parliamentary Under Secretary of Health for Scotland) said that it was the express desire of the local authorities that the general power which the hon. Members desired should be included in the Bill should be left out of it. Their reason was that while they were willing to bear the small expense involved under the present measure they thought that if the power was to be extended it ought to be discussed in Parliament and form the basis of new legislation instead of being brought about in the somewhat surreptitious manner involved in the procedure by Order in Council laid on the Table of both Houses. The analogy of England and Scotland was not really justified because the English Act only made a temporary provision, whereas this Bill was a permanent one to deal with diabetes. He thought that they were all anxious to see this Bill passed to see the position regularised, and to see this wonderful new remedy made freely and legally available to all sections of the community.

After further debate the second reading of the Bill was agreed to by 272 votes to 115.

MONDAY, MARCH 9TH.

*Opium Production in India.*

Mr. BUCHANAN asked the Under Secretary of State for India whether the Government of India was aware that the use in India of opium was supported by British officials as a well-established and, on the whole, not an injurious habit; and what steps he proposed to take to ensure that the use of this drug should be discontinued.—Earl WINTERTON replied: The view of the Government of India, based upon the findings of the Royal Commission which investigated the consumption of opium in India in 1895, is that centuries

of inherited experience have taught the people of India discretion in its use, which for the most part is without injurious consequences. The distribution of opium is strictly controlled in accordance with the provisions of The Hague Convention, 1912. My noble friend does not propose to interfere with the discretion of the Government of India and Provincial Governments in the exercise of this control.

*Effect of Preservatives in Food.*

Mr. HARDIE asked the Minister of Health whether he was aware that on p. 19, para. 59, of the Final Report on Preservatives and Colouring Matters in Food it was stated that it was evident that individuals might consume quite considerable quantities of preservatives in the course of an ordinary day's diet and that it was easy to imagine a reasonable meal which might contain 20 or even more grains of boric acid besides other preservatives; and whether, in the opinion of his official adviser, the effects of 20 gr. of boric acid were good or bad for the average individual consumer.—Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health) replied: My right hon. friend is aware of the statement referred to by the hon. Member. He is advised that the continued consumption of such quantities of boric acid as those mentioned would be likely to have a deleterious effect.

*The Danger of Toy Pistols.*

Colonel DAY asked the Home Secretary if his attention had been drawn to the danger that the public were exposed to by the use of toy pistols, sold at a cost of a few shillings, which had proved the subject of a recent inquest; and, in view of these disclosures, would he consider introducing legislation to regulate the sale and use of these dangerous toys.—Sir W. JOYNSON-HICKS replied: I have no reason to think that the danger to the community arising from toy pistols is sufficiently great to justify the extension to them of the provisions of the Firearms Act, and I do not think I could initiate legislation for this purpose.

*Accidents to Tramway Traffic Controllers.*

Colonel DAY asked the Minister of Transport the number of traffic controllers employed by the London County Council on their tramway services who had met with accidents while engaged in their employment during the last 12 months; and whether the accidents had been caused by motor or other vehicles.—Colonel W. ASHLEY replied: I am informed by the London County Council that during the 12 months ended Feb. 21st last two tramway traffic regulators and two ticket inspectors in the employment of the Council were injured, in one case fatally. All these accidents were, I understand, caused by motor vehicles.

*Defective Children.*

Mr. STAMFORD asked the President of the Board of Education the number of defective children of school age under the heads of blind, deaf and dumb, feeble-minded, tuberculosis (pulmonary), cripples (tubercular), cripples (other than tubercular), and other physical defectives, together with the special school accommodation available for each class of case.—Lord E. PERCY replied: I can only give the figures based upon the classification adopted for the purpose of the returns made to the Board. On this basis the figures are:—

| | Number of children. | | Accommodation in Special Schools, March 31st, 1923. |
|---|---|---|---|
| 1. Blind children | 5,401 | | 3,787 |
| 2. Deaf children | 5,491 | | 4,582 |
| 3. Mentally defective children | 29,278 | | 16,392 |
| 4. Physically defective children:— | | | |
| (i) Non-tubercular crippled children | 34,591 | Hospital schools | 2,759 |
| | | Cripple schools | 6,386 |
| (ii) Delicate children | 49,358 | Open-air schools | 4,690 |

It will be readily understood that it is extremely difficult to give really accurate figures of the number of defective children. The whole matter is considered in detail in Section VI. of the Report of the Board's Chief Medical Officer for 1923.

REDLANDS HOSPITAL FOR WOMEN, GLASGOW.—This hospital, formerly known as the Glasgow Women's Private Hospital, which was opened last month by the Viscountess Rhondda, is the only hospital of its kind in the West of Scotland. It is situated in the West End of Glasgow and is staffed by medical women with the exception of four honorary consulting officers. The hospital contains 50 beds and the patients all contribute to their maintenance. In the wards they pay 30*s.* weekly, but receive free medical and surgical attendance. There are rooms with four beds and two beds, and also single rooms. There is also a well-equipped maternity department, having both ward and single-room accommodation, with an up-to-date labour room.

# Medical Diary.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.**

*MEETINGS OF SECTIONS.*

**Monday, March 16th.**

SOCIAL EVENING: at 8.30 P.M.
At 8.30 P.M., Fellows, Members of Sections, and their Friends will be received by the President, Sir StClair Thomson.
At 9.30 P.M., Dr. H. Charles Cameron will give an address in the Robert Barnes Hall on John Locke, the Philosopher (1690), on the Upbringing of Children.
The Library will be open, and various objects of interest will be exhibited. Music, light refreshments, and cigarettes.

**Tuesday, March 17th.**

GENERAL MEETING OF FELLOWS: at 5.30 P.M.

PATHOLOGY: at 8.30 P.M.
*Annual General Meeting:*
Election of Officers and Council for Session 1925–26.
*Communications:*
A. Piney: (1) The Morphological Factors Concerned in the Incidence of Pernicious Anæmia. (2) The Blood in Rubella.
W. Cramer: On the Relation of Innervation to the Experimental Production of Cancer.

**Wednesday, March 18th.**

HISTORY OF MEDICINE: at 5 P.M.
*Papers:*
Prof. J. S. Dobson: On Herophilus of Alexandria.
Mr. C. J. S. Thompson: Some Historic Remedies and Their Origins.

**Thursday, March 19th.**

DERMATOLOGY: at 5 P.M. (Cases at 4 P.M.)
*Cases:*
Dr. A. C. Roxburgh: Case for Diagnosis.
Dr. J. M. H. MacLeod: Hemiatrophy of the Face.
Other cases will be shown.

**Friday, March 20th.**

ELECTRO-THERAPEUTICS: at 8.30 P.M.
*Papers:*
Dr. Gilbert Scott: A General Survey of Radiation with Special Reference to Treatment of Carcinoma of the Breast by X Rays.
Dr. J. H. Douglas Webster: Results and Problems in Deep Therapy.

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ROYAL INSTITUTION, Albemarle-street, W.
TUESDAY, March 17th.—5.15 P.M., Prof. E. N. da C. Andrade: Evolution of the Scientific Instrument (II.).
THURSDAY.—5.15 P.M., Dr. Leonard Hill: Biological Action of Light (II.).
FRIDAY.—9 P.M., Prof. J. W. McBain: Soaps and the Theory of Colloids.
SATURDAY.—3 P.M., Sir Ernest Rutherford: The Counting of the Atoms (IV.).

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, March 16th.—9 P.M., Sir Bernard Spilsbury: Wounds and Other Injuries in Their Medico-Legal Aspect (last Lettsomian Lecture).

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.
TUESDAY, March 17th.—8.30 P.M., Dr. Nathan Raw: Three Suggested Grounds for Divorce: (1) Hopeless Insanity; (2) Chronic Inebriety; (3) Sentence of Penal Servitude for Life. Discussion.

TUBERCULOSIS SOCIETY, 1, Upper Montague-street, Russell-square, W.C.
FRIDAY, March 20th.—8 P.M., Dr. W. H. Dickinson: League of Nations Post-Graduate Course.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.
THURSDAY, March 19th.—8.15 P.M., A Laboratory Meeting at the Royal Army Medical College, Grosvenor-road, Millbank, S.W. The following amongst others will give demonstrations: Dr. Douglas Adams, Dr. A. W. Grace, Dr. E. Hindle, Dr. J. T. Duncan, Dr. H. B. Newham, Dr. A. S. Burgess, Colonel Marrian Perry, Dr. H. Seidelin, Dr. A. C. Stevenson, Dr. J. Gordon Thomson, Dr. C. M. Wenyon, Mr. A. L. Sheather, and Prof. Warrington Yorke.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, March 16th to March 21st.—BARNES HALL, Royal Society of Medicine. A Discussion on Post-Graduate Teaching in London will take place on Wednesday, March 18th, at 6 P.M., Sir Arbuthnot Lane, Bt. (President of the Fellowship of Medicine), will preside. All members of medical profession are invited to attend and to give their criticisms of the existing arrangements and suggestions for improvement.—CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C. Lecture-demonstrations in Diseases of the Eye. Daily in the afternoons.—CHELSEA HOSPITAL FOR WOMEN. Special Course in Gynæcology. Lectures,

Demonstrations, Operations, &c.—HOSPITAL FOR CONSUMPTION, Brompton. Special Course in all Departments of Diseases of the Lungs, Phthisis, Heart and Treatment by Artificial Pneumothorax.—NORTH-EASTERN FEVER HOSPITAL, St. Ann's-road, N., Wednesday and Saturday at 11 A.M., Demonstrations on the Diagnosis and Treatment of the Acute Infectious Diseases will be given by Dr. Frederic Thomson.—ROYAL WATERLOO HOSPITAL, Waterloo-road, S.E. Special Course in Medicine, Surgery, and Gynæcology. Lecture-demonstrations will be given in the Wards and Out-patient Departments.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.

MONDAY, March 16th.—12 noon, Mr. Simmonds: Applied Anatomy. 2 P.M., Dr. Scott Pinchin: Medical Out-patients. 2 P.M., Mr. Addison: Surgical Wards. 2.30 P.M., Dr. Saunders: Medical Wards

TUESDAY.—11 A.M., Mr. Endean: Venereal Diseases. 12 noon, Dr. Burrell: Chest Cases. 2.30 P.M., Mr. Tyrrell Gray: Surgical Wards.

WEDNESDAY.—11 A.M., Medical Registrar: Medical Wards. 2 P.M., Dr. Burnford: Medical Wards. 2 P.M., Dr. Owen: Medical Out-patients.

THURSDAY.—11 A.M., Sir Henry Simson: Gynæcological Wards. 2 P.M., Mr. MacDonald: Genito-Urinary Dept. 2 P.M., Mr. Bishop Harman: Eye Dept.

FRIDAY.—11 A.M., Dr. McDougal: Medical Electricity. 2 P.M., Mr. Sinclair: Surgical Out-patients. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Dept.

SATURDAY.—10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.

Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M. In-patients, Out-patients, Operations, Special Departments.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

TUESDAY, March 17th.—4.30 P.M., Dr. F. G. Crookshank: Rheumatoid and Osteoid Arthritis.

FRIDAY.—4.30 P.M., Mr. E. Gillespie: Some Uses of Orthopædic Surgery.

Daily: Medical and Surgical Clinics, Clinics in the various Special Departments, Surgical Operations, &c.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C. 1.

POST-GRADUATE COURSE: FEB.–MARCH, 1925.

CLINICAL LECTURES AND DEMONSTRATIONS.

MONDAY, March 16th.—2 P.M., Out-patient Clinic: Dr. Hinds Howell. 3.30 P.M., Syphilis of the Nervous System (2): Dr. Adie.

TUESDAY, March 17th.—2 P.M., Out-patient Clinic: Dr. Adie. 3.30 P.M., Disseminated Sclerosis: Dr. Birley.

THURSDAY, March 19th.—2 P.M., Out-patient Clinic: Dr. Kinnier Wilson. 3.30 P.M., Friedreich's Ataxia: Dr. Gordon Holmes.

FRIDAY, March 20th.—2 P.M., Out-patient Clinic: Dr. Gordon Holmes. 3.30 P.M., Demonstration of Physical Exercises in Exercise Room: Mr. Elmquist.

COURSE OF LECTURES AND DEMONSTRATIONS ON THE PATHOLOGY OF THE NERVOUS SYSTEM.

THURSDAY, March 19th.—12 noon, The Neuroglia: Dr. J. G. Greenfield.

COURSE OF LECTURES AND DEMONSTRATIONS ON THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

MONDAY, March 16th.—12 noon, Cerebral Cortex and Cerebral Localisation: Dr. Hinds Howell.

A COURSE OF CLINICAL DEMONSTRATIONS, chiefly on METHODS OF EXAMINATION OF THE NERVOUS SYSTEM, is held in the Wards at 10 A.M. on Tuesdays and Fridays by Dr. H. J. Macbride.

COURSE OF LECTURES AND DEMONSTRATIONS ON THE NEUROLOGY OF THE EYES.

WEDNESDAY, March 18th.—3.30 P.M., The Oculomotor Nerves: Mr. Leslie Paton.

Mr. Armour and Mr. Sargent operate at the Hospital on Tuesday and Friday mornings at 9 A.M., or at such other times as may be announced. Full particulars on application to

J. G. GREENFIELD, Dean of Medical School

HOSPITAL FOR SICK CHILDREN, Gt. Ormond-st., W.C.

THURSDAY, March 19th.—4 P.M., Dr. Shires: X Ray Diagnosis of Diseases of the Chest.

ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.

TUESDAY, March 17th.—5 P.M., Dr. A. C. Roxburgh: Scleroderma. Neurofibromatosis.

ST. MARY'S HOSPITALS, Manchester.

FRIDAY, March 20th.—4.30 P.M., Post-Graduate Lecture (at Whitworth-street, West Branch), Dr. J. Brido: Visit to the Obstetric Wards.

MANCHESTER ROYAL INFIRMARY.

TUESDAY, March 17th.—4.15 P.M., Mr. J. Morley: (Esophageal Diverticula and Cardiospasm.

FRIDAY.—4.15 P.M., Dr. E. B. Leech and Mr. J. Howson Ray: Clinical Cases.

ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.

TUESDAY, March 17th.—4 P.M., Prof. Murray Lyon: Diuretics. Discussion to be opened by Prof. Charteris and Dr. Maitland Ramsay.

CHADWICK PUBLIC LECTURES.

FRIDAY, March 20th.—7 P.M. (at University College, Cardiff), Dr. W. M. Feldman: Antenatal Child Physiology and Hygiene.

SATURDAY.—3 P.M., Postnatal Child Physiology and Hygiene.

THE PEOPLE'S LEAGUE OF HEALTH.

Lectures on What We Should Eat and Why, at the Medical Society of London, 11, Chandos-street, W.

WEDNESDAY, March 18th.—6 P.M., Dr. M. J. Rowlands: Feeding and Breeding of Stock.

# Appointments.

BARR, WILLIAM, M.D., Ch.B. Glasg., D.Sc.P.H., has been appointed Medical Officer of Health to the County Borough of Rotherham.

BEALE, PEYTON T. B., F.R.C.S. Eng., Consulting Surgeon to King's College Hospital.

GAMLEN, H. E., M.B., B.S., D.P.H. Durh., Honorary Physician in charge of the Electrical and Massage Departments, Royal Victoria Infirmary, Newcastle-upon-Tyne.

LAMBERT, MARJORIE A. M., M.R.C.S., L.R.C.P. Lond., House Surgeon to the New Sussex Hospital for Women and Children, Brighton.

MOORE, F. CRAVEN, M.D., M.Sc. Manch., F.R.C.P. Lond., to the Chair of Systematic Medicine in the University of Manchester.

MYLES, D., M.B., Ch.B. St. And., Medical Officer, Forfar Parish Council.

Freemasons Hospital and Nursing Home: BOX, CHARLES R., M.D., B.S. Lond., and BEAUMONT, G. E., M.D. Oxon., Physicians; CHRISTOPHERSON, J. B., M.B., B.Ch. Camb., Tropical Diseases; EVANS, ARTHUR, F.R.C.S., M.D., M.S. Lond., GRAY, H. TYRRELL, F.R.C.S. Eng., FITZWILLIAMS, DUNCAN C. L., F.R.C.S. Eng., Surgeons; BONNEY, VICTOR, F.R.C.S. Eng., RIVETT, L. CARNAC, F.R.C.S. Eng., Gynæcologists; MACDONALD, S. G., F.R.C.S. Eng., Genito-Urinary; FRENCH, J. GAY, F.R.C.S. Eng., NEILSON, D. F. A., F.R.C.S. Eng., Throat and Ear; MAYOU, M. S., F.R.C.S. Eng., Ophthalmic; BATTEN, H. E., F.R.C.S. Eng. Orthopædic; BERRY, HERBERT MARTIN, M.D. Liverp., Radiologist; DOBSON, L. C., M.D. Lond., Electro-Therapeutist; CHAMBERS, HERBERT, M.R.C.S., L.R.C.P. Lond., GANDY, ERIC W., M.R.C.S., L.R.C.P. Lond., IRONSIDE, R. W., B.Ch. Camb., PHILLIPS, H. R., M.D., Ch.B. Edin., Anæsthetists; HARRIS, H. E., Surgeon-Dentist.

Metropolitan Asylums Board: MCCARTNEY, J. E., M.D., Ch.B. Edin., Director of the Board's Pathological Services; WHITE, R. G., M.B., Ch.B. Glasg., Director of the Anti-toxin Establishment.

# Vacancies.

*For further information refer to the advertisement columns.*

*Albert Dock Hospital, Connaught-road, E.*—H.S.'s at rate of £110.

*Barnstaple, North Devon Infirmary.*—H.S. at rate of £150.

*Bath, Royal United Hospital.*—Hon. Asst. S.

*Belfast, Mater Infirmorum Hospital.*—Hon. Asst. Gynæcologist.

*Belfast, Ulster Hospital for Children and Women, Templemore Avenue.*—Hon. Asst. P.

*Belgrave Hospital for Children, Clapham-road, S.W.*—H.P., H.S., and Asst. H.P. at rate of £100.

*Birmingham, Queen's Hospital.*—Third Phys. £50.

*Bootle Borough Hospital.*—Hon. S.

*Bradford Municipal General Hospital, St. Luke's.*—H.P. and H.S. at rate of £200 each.

*Brighton, New Sussex Hospital, Windlesham-road.*—Hon. Asst. P. and Temp. Asst. S.

*Bristol University.*—Lecturer in Pathology.

*British Guiana.*—Asst. M.O.H. £500.

*British Hospital for Mental Disorders, &c., 72, Camden-road, N.W.*—Hon. P.

*Bromley Borough.*—M.O.H. £800.

*Burton-on-Trent Infirmary.*—H.S. £150.

*Buxton, Derbyshire, Devonshire Hospital.*—Asst. H.P. at rate of £150.

*Central London Ophthalmic Hospital, Judd-street, St. Pancras, W.C.*—H.S. Also Jun. H.S. at rate of £100 and £50 respectively.

*Coventry and Warwickshire Hospital.*—Res. H.P. £125.

*Doncaster Royal Infirmary and Dispensary.*—Hon. Ophth. S.

*Dover, Royal Victoria Hospital.*—H.S. £180.

*Dreadnought Hospital, Greenwich.*—H.P. and H.S. Each at rate of £110.

*Elizabeth Garrett Anderson Hospital, 144, Euston-road, N.W.*—Clin. Asst. £1 1s. per session.

*Evelina Hospital for Children, Southwark, S.E.*—H.S. at rate of £120. Also Anæsthetist. 25 guineas.

*Exeter, Royal Devon and Exeter Hospital.*—H.P. at rate of £150.

*Federated Malay States.*—Research Studentship in Tropical Medicine. £700.

*Folkestone, Royal Victoria Hospital.*—R.M.O. at rate of £150.

*Glasgow, Consumption Sanatoria of Scotland, Bridge of Weir.*—Res. M.O. £200–£250.

*Hospital for Epilepsy and Paralysis, Maida Vale, W.*—R.M.O. and H.P. at rate of £150 and £100 respectively.

*Hospital for Sick Children, Great Ormond-street, W.C.*—H.S., H.P., and Asst. Cas. O. Each at rate of £50.

*Leamington Spa, Warneford General Hospital.*—Hon. Asst. P. and Hon. Asst. S.

*Leeds City.*—Asst. M.O.H. for Maternity and Child Welfare. £600.

*Lichfield County Mental Hospital, Burntwood.*—Sen. Asst. M.O. £750.

*Liverpool Sanatorium, Delamere Forest, Frodsham.*—Asst. M.O. £200.

*London Homœopathic Hospital, Great Ormond-street, W.C.*—Pathologist. £200.
*London Hospital, E.*—First Asst. to Surgical Firm. £400.
*London Lock Hospital, 91, Dean-street, W.*—Surg. Reg. £100.
*London Lock Hospital, 283, Harrow-road, W.*—Temp. Hon. S. to Out-patients.
*Maidstone, Kent County Mental Hospital.*—Asst. M.O. £300.
*Maidstone, West Kent General Hospital.*—H.S. at rate of £220.
*Manchester, St. Mary's Hospitals.*—Two H.S.'s. Each at rate of £50.
*Manchester University.*—Lecturer in Morbid Anatomy and Histology. £500.
*Metropolitan Hospital, Kingsland-road, E.*—S. for Diseases of Nose, Throat, and Ear.
*Miller General Hospital for South-East London, Greenwich-road, S.E.*—H.P. £125.
*National Hospital for Diseases of the Heart, Westmoreland-street, W.*—Res. M.O. at rate of £150. Also Out-patient M.O. at rate of £125.
*Newcastle-upon-Tyne, Royal Victoria Infirmary.*—Med. Reg. at rate of £50. Also Hon. Asst. to Electrical and Massage Depts.
*Nottingham Children's Hospital.*—Res. H.S. at rate of £150.
*Plymouth, South Devon and East Cornwall Hospital.*—H.P. and Asst. H.S. Each at rate of £50.
*Putney Hospital, Lower Common, Putney, S.W.*—R.M.O. £150.
*Queen's Hospital for Children, Hackney-road, Bethnal Green, E.*—R.M.O. £200. Also Two H.P.'s and Cas. H.S. Each at rate of £100.
*Redhill, Surrey, Royal Earlswood Institution.*—Jun. Asst. M.O. at rate of £250.
*Royal Chest Hospital, City-road, E.C.*—Phys.
*St. Pancras Dispensary, 39, Oakley-square, N.W.*—Hon. Phys.
*Sheffield Royal Hospital.*—Hon. Radiologist.
*South London Hospital for Women, South Side, Clapham Common, S.W.*—H.P. and Three H.S.'s in each case at rate of £50.
*Sudan Medical Service.*—Two Medical Inspectors. £E.720.
*Sutton, Surrey, Downs Hospital for Children.*—Second Asst. M.O. £550.
*Suva, Fiji.*—Port M.O. and Bacteriologist, &c. £750.
*Wandsworth Common, Springfield Mental Hospital.*—Asst. M.O. £400.
*West London Hospital, Hammersmith-road, W.*—H.P. and Two H.S.'s. Each at rate of £100.

The Chief Inspector of Factories, Home Office, London, S.W., announces the following vacant appointments: Coxhoe, Durham; and Brigstock, Northampton.

# Births, Marriages, and Deaths.

## BIRTHS.

BOND.—On March 5th, at Bulford Camp, the wife of Major A. H. Bond, R.A.M.C., of a son.
CHAPMAN.—On March 1st, at Marine House, Bridlington, the wife of P. D. H. Chapman, M.B., of a daughter.
JACKSON.—On March 6th, at Coombe House, Wallington, Surrey, the wife of G. Maudsley Jackson, M.B., B.S., of a son.
SIDEBOTHAM.—On March 2nd, at Raleigh House, Ottery St. Mary, the wife of Dr. F. N. Sidebotham, of a daughter.

## MARRIAGES.

MANN—HOWELL.—On March 7th, at Christ Church, Hendon, James Wallace Mann, M.B., Ch.B., to Margaret Olwen Howell, M.B., B.S., second daughter of the late John Howell and Mrs. Howell, Llanelly.

## DEATHS.

BROWNE.—On March 7th, at Minto, Esher, Samuel Browne, M.D., late R.N., aged 74.
BURROWS.—On March 8th, at Devonshire House, Southsea, Lucy Mary Elizabeth, the beloved wife of Harold Burrows.
CLELAND.—On March 5th, at Moorcroft, Lidsing, Chatham, John Cleland, M.D., F.R.S., &c., Emeritus Professor of Anatomy, University of Glasgow, in his 90th year.
COMPTON.—On March 2nd, at midnight, Thomas Armetriding Compton, M.D., Trinity Coll., Dublin, B.A. Camb., of Journey's End, Parkstone, aged 87.
KER.—On March 4th, at the City Hospital, Edinburgh, of influenzal pneumonia, Claude Buchanan Ker, M.D., F.R.C.P. Edin., Medical Superintendent, aged 57.
KNIGHT.—On March 5th, at Bolton-le-Sands, Alexander Angus Halley Knight, M.D.
MOORE.—On March 7th, Colonel E. J. Moore, C.B., V.D., M.B., B.Ch. Oxf., of Park End, Blackheath Park, aged 62.
ORMEROD.—On March 5th, Joseph Arderne Ormerod, M.D., F.R.C.P.
PEARSON.—On March 4th, at a nursing home, Cheltenham, John Douglas Pearson, M.R.C.S., L.R.C.P.
WHITELEY.—On March 7th, Daniel Flockton Whiteley, M.R.C.S., L.R.C.P. Lond., of Coleherne Court, S.W.

*N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

GREENOCK INFIRMARY.—It is proposed to establish an auxiliary hospital in the Inverkip Valley to relieve the pressure upon the infirmary, and Mr. Matthew Rankin and Miss Rankin are giving £20,000 for the purpose in memory of their brother, Mr. John F. Rankin, who died recently. The new building is to be so arranged that it can readily be extended.

# Notes, Comments, and Abstracts.

## THE METHOD OF TRIAL IN MATE SELECTION.

THE majority of anthropologists have maintained that primitive society was committed to the system of group marriage and promiscuity, in which sexual selection could play but a trivial part, though Darwin raised his voice in protest, asking how humanity could have progressed without selective mating in the earlier phases. But his views and those of Westermarck and others were overshadowed by the preponderating opinions of many authorities. It was to re-establish those views that Prof. Malinowski was concerned in a recent address to the Eugenics Education Society. He took as his theme the marriage customs of a tribe of Melanesian islanders from the north-west of New Guinea, where he had been engaged in field-work. The peoples were among those hitherto regarded as classical examples of a system of promiscuity and group marriage, but he had satisfied himself that certain institutions, which on a superficial observation appeared to belong to this system, were in fact of a different nature. Among these people immature sexual gambols begin in early childhood and are regarded by the community with indifference as "natural," the only restraint, which is strictly observed, being against incest or exogamy. At puberty the childish dalliances give place to more serious and passionate attachments, but these are not associated immediately with marriage and permanent relations. The sexual approach shows greater variety in manifestation as age advances, romantic and æsthetic elements come into prominence, and there is a definite attempt to achieve possession of the beloved, by work, by magic, or other means. During this time the couples can sleep together freely in certain houses specially set apart for them, and this is the phenomenon which has been interpreted as the institution of group marriage. When closely scrutinised it is found to be of a different nature. There is no promiscuity in these houses; the couples who frequent them remain faithful to each other and a strict decorum is observed. The houses form, in fact, a provision for the method of trial in the selection of the mate, while strict convention demands that unmarried couples shall not live together in any other sense—to eat with a girl before marriage is as shocking to these Melanesian people as their methods for testing compatibility are to us. Sooner or later a lasting intrigue becomes known among the tribe to have occurred between a couple and this is taken as an indication of intended marriage, while on the whole the ensuing unions are permanent and satisfactory. The final choice is based on a mutual appreciation of the character and personality of the mate, and so the principle of selective breeding is clearly subserved. One obvious question refers to the number of illegitimate children, and this is answered by the curious fact that babies are hardly ever born as a result of the early intrigues, while "fatherless children" are regarded as reprehensible results on the part of the mothers; but exactly how their incidence is prevented is not clear. The tribe, then, which has no realisation of the physiological basis of fatherhood, yet sees the sociological need of two parents, and the institution of the family is firmly established by custom and legality.

Prof. Malinowski's investigations raise many problems of interest. Civilisation is still concerned with the difficulties presented by human nature in the attempt to stabilise family life and monogamy. The method adopted to this end by recent European culture differs fundamentally from that of these Melanesians, yet the end desired is the same and seems to be about equally achieved by either route. Both methods are attended by certain physical and psychopathological results; we are accustomed to regard such free expression of the sexual instinct as a drain on the strength of the organism, and modern psychology has preached from the housetops the baleful results of repression. An interesting sidelight on this was thrown by Prof. Malinowski's statement that hysteria and mental disease are far more commonly met with in tribes with strict sexual limitations than among those with extensive sexual liberty. It seems certain that a psychological appreciation of the values and characteristics of the mate is the only possible basis for permanent partnership. Some doubt may be thrown on the ability of such primitive peoples as these Melanesians to experience such a conscious appreciation as we should understand by these terms, but they are probably able, when free of the distorting effect of unexpressed emotional tension, to find their psychological affinity or complement in a subconscious or instinctive fashion and thus to fulfil the demands of natural selection. It is interesting to note that these people have long been in contact with European

culture and yet have been affected by it less than any. Missionaries have laboured in vain to modify their customs and their clothes—or lack of clothes. Now all that elaboration of æsthetic, moral and intellectual development which we associate with cultured humanity seems to have resulted psychologically from the process of inhibition. It may be suggested that the method of free expression practised by these people is to be correlated with the fact that they have proved so resistant to Western influence. Their method is satisfactory from the biological point of view, the desired ends are attained, but they are bound by it to a condition of "nature," and the gateway to all that wealth of human experience which flows from diversion of instinctive impulse into alternative channels is to them forever closed. It seems probable that the two paths of expression and repression are two extremes, each attended with certain penalties, and that future generations will find some "middle way" between the restrictions of Mrs. Grundy and the licence of the South Sea Islander.

## NATIONAL BABY WEEK COUNCIL.

THE annual general meeting of the National Baby Week Council was held at 117, Piccadilly, London, W., on March 4th, when a satisfactory account of the year's work was given by Dr. Eric Pritchard, chairman of the Executive Committee. Sir Arthur Newsholme, who presided, congratulated the Council on their work of saving child life throughout the country, and said that the good done in forming public opinion could not be over-estimated under a system of democratic government. The results of the efforts made to preserve infant life during the past 20 years had been marvellous, and since the end of the last century the death-rate had been halved. This could be explained by a large number of factors, among which publicity and education had been the most essential. Infantile diarrhœa had become a rare disease in London, and it was even difficult to get hold of well-marked clinical cases for demonstration to students.

An amendment to the constitution of the National Baby Week Council was agreed to, providing for membership of local authorities and voluntary bodies doing continuous maternity and child welfare propaganda.

Dr. J. A. Hadfield gave an address on the

*Formation of Character: A Problem of Child Psychology.*

After pointing out that some of the abnormalities which occurred late in life were directly derived from, and were themselves reproductions of, morbid infantile states of mind, Dr. Hadfield went on to show how the character of the adult depended upon the earlier experience and training of the child. The first years of life, he said, were characterised by a feeling of dependence, followed by the development of self-will and the desire for self-gratification. In the third and fourth year came self-knowledge and self-consciousness, the development of the moral sense, and of the will. It was important that all these phases of life should have their proper and normal development. All these impulses could be dealt with in different ways; they might be indulged or repressed and crushed, but if they were crushed disorders might develop in later life. If they were well directed, the result would be the full and true development of character. These tendencies should be directed towards some ideal. The child whose dependence was over-indulged would never "grow up," and would never be prepared to face the responsibilities of life. On the other hand, there might be a danger of mistaking what seemed to be over-affection for the mother for real starving of affection—the mother not being sufficiently responsive. The end-result in later life was often hysteria. If the attempt was made to make a man of a child at the age of 1½, the result would probably be the production of a coward. If the impulse of gratification were crushed the result in after life might be sense perversions, while if the tendency was controlled, guided, and directed the formation of a strong character would result. The proper guidance of self-will was of great importance, for tremendous harm was done by crushing the impulsive tendencies which were engendered by it. The will of the child of 3 or 4 years was merely the reproduction of the parental will and authority exercised at the age of 1 and 2. The child's choice should be developed, it should be taught how to do things, if it showed tendencies to do them, and in this connexion he, Dr. Hadfield, thought that the age of 2 years was not too early to teach a child to strike a match and light a fire, if it wished to do so. It might seem paradoxical, but if the child wanted to do "naughty" things it had better be taught how to do them properly. A factor of enormous importance was the single atmosphere in child training. The greatest damage could be done to the child's life if it were treated differently by different people, or if the father and mother were not in agreement in regard to control. The child whose parents did not always deal with it in the same way for the same fault was led to the attitude of the criminal type who in committing a crime knew he would get no choice, if caught, and so just "chanced his luck."

## COLONIAL HEALTH REPORTS.

### BECHUANALAND PROTECTORATE.

THE territory of the Protectorate is bounded on the south and east by the Union of South Africa, on the north-east by Southern Rhodesia, on the north by the Zambesi and Chobe (Linyanti) Rivers, and on the west by the territory of South-West Africa. It has not been surveyed as a whole, but its area is estimated at 275,000 square miles. Its mean altitude is about 3300 feet. The population at the census of 1921 was 152,983, including 1743 whites. The health conditions throughout the territory for the year ended March 31st, 1924, are stated, in the annual report just to hand, to have been on the whole satisfactory. As in the past, malaria and its sequelæ head the list of prevalent diseases. During the early months of the year there were several outbreaks of the disease in the northern districts. These, though of the benign tertian form, were of more than usual severity in character: but they were not sufficiently widespread or severe to affect the economic position either through disablement or direct or indirect mortality. As against this, the prevalence of the disease throughout the southern areas was occasional only, and its character uniformly mild. Respiratory troubles came next in order, but these, though figuring largely in the list, were of the light and non-dangerous variety. Of severe intestinal ailments, 16 cases of dysentery had to be recorded in the year, with 1 death. All these occurred in the northern part of the territory. There was an epidemic of measles in the village of Gaberones and at other isolated posts in the neighbourhood, as well as at Ramoutsa, where the mortality was high. There were 2 cases of scarlet fever at Gaberones camp. The portion of the country inhabited by the greater number of both Europeans and natives is adjacent to the only line of railway which passes through the eastern side of the territory for a distance of 403 miles; the average altitude of the stations and sidings along this section of the line is 3418 feet.

### BRITISH HONDURAS.

This colony, in Central America, on the Atlantic side of the mainland, has an area of about 8598 square miles. The country is well watered, and its rivers, which are many, provide the chief means of communication. The climate, for a tropical area, is naturally very healthy, and in Belize (the capital), where the trade winds blow, pleasant for most of the year. The estimated population on Dec. 31st, 1923, was 46,527. The report for 1923 states that the general health of the colony during the year was exceptionally good; 112 cases of malaria of all types were treated in the Belize Hospital without any deaths, and 134 cases were treated in district hospitals with 4 deaths. The returns of deaths for the whole colony show 32 deaths certified by registered medical practitioners from malaria. On referring to the cause of deaths in cases not certified by registered medical practitioners, there is naturally considerable doubt as to the diagnosis, but it is probable that about 150 were due to malaria. As to the actual prevalence of malaria there are no statistics, but it is probable that malaria is the cause of a great majority of absences from work and invalidity. Sixteen cases of amœbic dysentery and 3 cases of bacillary dysentery were treated in Belize Hospital with one death; 39 cases of both types were treated in district hospitals with one death. Ten deaths were certified by registered medical practitioners as due to dysentery. There were 8 certified deaths from tetanus. Thirty-one cases of pulmonary tuberculosis, with 16 deaths, were treated in Belize Hospital, and 21 cases, with 5 deaths, in the district hospitals; 41 certified deaths from this disease were also registered. It is impossible to estimate the number of uncertified deaths from this cause, but they are undoubtedly very many. Filariasis is unknown in the colony, and plague has never occurred. Small-pox has never reached the colony, and the alastrim of Jamaica has also not appeared. The passengers from Jamaica are subject to medical supervision for 14 days from date of departure unless they are able to produce satisfactory proof of recent vaccination. Vaccination here (primary) is carried out fairly well. The number of births registered during the year was 1764, and the number of deaths 954, the birth-rate working out at 37·91 per 1000 of the population, and the death-rate at 20·5 per 1000. There was a decrease in the number of infant deaths. The highest rainfall registered in 1923 was at Punta Gorda in the Toledo district, which had a total of 149·85 inches. The lowest was at Corozal, where the total was only 25·05 inches. The hottest days were Oct. 17th and 18th, on which the thermometer registered 91·5° F., and the coldest day Nov. 16th, when it registered 61·5°.

## LEGISLATION AND SMOKE ABATEMENT.

A Chadwick public lecture was delivered on March 9th at the Inner Temple Hall by Lord Newton, who spoke on the necessity for legislation with regard to smoke abatement. Sir William J. Collins was in the chair. After describing the waste and damage to health and property caused by smoke, Lord Newton said that it was surprising no effective steps were taken to deal with this national nuisance. Smoke nuisances were usually dealt with under the Public Health Act of 1875, but owing to its ineffectiveness various towns had obtained local Acts. The difficulties attending the enforcement of the 1875 Acts as regards smoke had resulted in complete inaction in many districts, local authorities having become apathetic. This attitude, however, was largely due to the apathy of the central authority. No Government had shown, he said, until quite recently, the slightest interest in smoke abatement, and the old Local Government Board consistently declined to put any pressure on local authorities. It was not until 1914 that, as the result of much educational work by private individuals and societies, a departmental committee was appointed. The activities of this committee were suspended during the war, but its work was resumed in January, 1920, and after an exhaustive inquiry the first report was issued in December, 1921. This report, after dealing with the deficiencies of the present law, made certain recommendations, none of which had ever met with any opposition, but which hitherto had been completely ignored.

Amongst the recommendations were the following (1) Power to the Minister of Health to compel a defaulting authority to act. (2) An amendment to the law providing a general legal obligation on manufacturers to use the best practicable means for avoiding pollution instead of prohibiting absolutely the emission of "black" smoke. (3) Power to the Minister of Health to fix standards, as in the case of the Alkali Acts. (4) The duty of enforcing the law to be transferred from the local sanitary authorities (1800 in number) to the county councils and county boroughs. (5) The imposition of larger fines than at present. All recommendations were made on the assumption that questions of cost must be taken into account in determining what was practicable. With regard to domestic smoke, it was recommended that the central housing authority should not sanction any housing scheme submitted by a local authority unless provision was made in the plans for the adoption of smokeless methods, granting that the adoption of such methods was considered by the central authority to be practicable.

Since the production of the departmental committee's report, the lecturer continued, three Bills had been introduced by three successive Governments, but in each case they failed to embody the main recommendations of the committee, and were introduced at so late a period of the session that there was obviously no serious intention of passing them. The present Minister of Health, having been approached on the subject, had intimated that there was no time to pass a Bill this year, but that he would endeavour to introduce one early next year. Lord Newton submitted that if it was seriously desired to get rid of the smoke nuisance fresh legislation was imperative. No improvement in the situation would reasonably be expected until the Ministry of Health intervened and insisted upon a more efficient and uniform administration. "It is difficult to understand," he concluded, "why this Ministry was ever created if it is not to concern itself with a matter which affects the health, economy, and general amenity of life of the vast majority of the population."

## COÖPERATION BETWEEN DOCTOR AND DENTIST.

IN 1921, as the result of a Departmental Committee of the Privy Council, a new Dentists Act was passed, which provided that no unregistered person should henceforth be able to practise dentistry. Under this Act a number of hitherto unrecognised practitioners who had vested interests became entitled to registration on complying with certain requirements. The Dental Board of the United Kingdom was established, and a large degree of autonomy was given to the dental profession. It was not to be expected that the 6000 qualified dentists then registered would appreciate the dilution of their body by the addition of some 8000 names. But the struggle of the unqualified men to obtain recognition, to secure registration, and to achieve some means of self-government had been arduous, the opportunity of making a start on the road towards the creation of an autonomous and respected profession was wisely seized, and the British Dental Association strongly supported the Government Bill which ultimately became law. Now dentists admitted under the 1921 Act range from men who have passed through the whole curriculum but failed in their final, and for want of means have not qualified, through men who have had a really good apprenticeship and know a great deal about the practical side of their work, down to men whose early experience was gained at the expense of their patients. Even the last-named class have often acquired sound judgment as well as mechanical skill in the course of the years of practice which led to their inclusion on the Register. A letter from the Registrar of the General Council of Medical Education and Registration of the United Kingdom, which was published in THE LANCET of Feb. 28th, implies that doubt has arisen as to the propriety of coöperation between medical men and dentists admitted under the Act. He points out that doctors are entirely at liberty to give an anæsthetic for any person whose name appears in the Dental Register. We would be inclined to go further and to contend that refusal to coöperate could hardly be justified on general grounds. A practitioner called upon to administer an anæsthetic for any individual operator, however well qualified, whom he believed to be unskilful would be faced with a difficult problem; but any invidious distinction between those who have achieved membership of an honourable profession by examination and those who have been admitted to its privileges on other grounds is unseemly, and is likely to injure both professions in the eyes of the public.

## A USEFUL WARNING.

*To the Editor of* THE LANCET.

SIR,—Last week our out-patient superintendent saw a man hanging about the department and speaking to patients. Wanting to know his business he pretended to be a patient, and limped past him, whereupon this man gave h m a card with the name and address: "V. J. Vowler, Claims Assessor, 11, Ludgate Hill, E.C. 4," on it.

I wrote to Mr. Vowler asking for his explanation, and the enclosed correspondence has passed.

I think this method of getting business so objectionable that I feel all hospitals should be warned.

I am, Sir, yours faithfully,

London Hospital, E., March 6th, 1925. KNUTSFORD.

[ENCLOSURES.]

(1)

To the Viscount Knutsford,
Knoesworth Hall, Royston, Herts.

MY LORD,—I am in receipt of your communication of the 26th ultimo in which you complain that your out-patient superintendent whilst pretending to be a hospital patient with a bad limp was given a card of mine.

I may say at once that I am not the person who it is stated gave your superintendent my card and I know nothing whatever about the matter, and the suggested indiscriminate and promiscuous use of the card by the individual in question was entirely without my knowledge or sanction and would not be countenanced by me.

At the moment I cannot make up my mind whose conduct is to be deprecated most, your superintendent's for masquerading and assuming the rôle of an injured man or the other individual, but I do not know that I should view with great discrimination any complaint emanating from a gentleman whose zeal can carry him so far as to pretend to have an affliction which in reality he is fortunate enough to escape.

I am, My Lord, Your Obedient Servant,
V. J. VOWLER.

11, Ludgate Hill, London, E.C. 4, March 2nd, 1925.

(2)

SIR,—You will not find it easy to get anyone to believe that this man was touting for business for you actuated by mere philanthropy.

Do you suggest that he spent his own money in getting your advertisement cards printed, and gave his own time attending the out-patient department of the London Hospital without remuneration direct, or by commission?

Find some innocent marine, and tell him that story. Nobody else would believe it. Yours faithfully,

KNUTSFORD.

## MINISTRY OF HEALTH: CIVIL SERVICE BONUS.

IN a circular (No. 567) addressed to local authorities, the Minister of Health states that the Civil Service bonus, as reviewed on March 1st, has been fixed on the basis of an average cost of living figure of 80—that is, on the same basis as obtained during the six months commencing March 1st, 1924. In so far as insurability under the National Health and Unemployment Insurance Acts of officers employed otherwise than by way of manual labour, and in receipt of bonus on the Civil Service scale, is dependent upon the rate of their remuneration, the question of insurance should be determined until further notice with reference to the basic rate of remuneration, plus the bonus on such remuneration applicable from time to time. Officers of the classes concerned whose rate of remuneration with bonus based on an average cost of living figure of 80 will not exceed £250 a year are thus treated as insurable from March 1st. A "Ready Reckoner" for use in connexion with the bonus scheme has been prepared by the Treasury.

## A PECULIAR CASE OF "ALBINISM."

IN THE LANCET of Nov. 15th, 1924, p. 1048, reference was made to a report in *Man* on the so-called white Indians of Panama, and in the current issue of the same journal Mr. F. W. H. Migeod states that there are places in Africa where there is a local tendency to albinism, and infers from certain evidence that the condition has nothing to do with intermixture of European blood. He states also that he has never seen an elderly adult case of albinism; all have been in children or young men. He narrates the case of a soldier, a native of the Gold Coast, Northern Territories Colony, who fell sick, and when, after a long time, he returned to duty he had become entirely white. The black pigmentation had disappeared, except for some mottling. He was in this state when Mr. Migeod last saw him, but this was in 1916. The natives in out-of-the-way places on the Gold Coast account for albinism by saying that the mother when pregnant saw a white man, and, owing to the shock, brought forth a white child, which appears to be a charitable interpretation.

## SUMBUL.

WE have received from Messrs. Ralph L. Fuller and Co., of 21, Harp-lane, London, E.C., samples of Russian musk-root more accurately known as sumbul and sometimes called spikenard. They are of interest as showing that the drug, which has always enjoyed some measure of popularity, is again available for British doctors, for during the past eight years the isolated position of Russia has led to its practical disappearance from our markets. Sumbul has been used as a substitute for musk, which it much resembles in odour, while its medicinal properties, due to a resin and an essential oil, are held to be the same as those of asafœtida. It has had a place in the British Pharmacopœia, but it was well known in Russia many years before it received any recognition in this country. However, as far back as 1850 we find the famous Dr. Robert Bentley Todd, F.R.S., prescribing sumbul in a case of epilepsy under his care at King's College Hospital, when he explained that the root had been brought to his notice by Mr. Savory of Bond-street, who had experienced difficulties in getting genuine supplies from Russia. Messrs. Fuller and Co. inform us that they have secured and warehoused a quantity sufficient to supply the requirements of the trade, and that many pharmaceutical chemists are now notifying their medical clients that tincture of sumbul is again obtainable.

## TRAINING AND SUPPLY OF MIDWIVES: GRANTS FROM THE MINISTRY OF HEALTH.

IN 1919 the Board of Education (Midwives' Training) Regulations were issued, under which grants could be made by the Board to recognised residential institutions in aid of the training of intending or practising midwives. As the supervision of the arrangements for securing an adequate supply of midwives is within the province of the Minister of Health, it has been decided that, from April 1st, 1925, the Exchequer grants in aid of the training of midwives shall be made by the Minister of Health and not by the Board of Education, as formerly. The Minister of Health has now issued a Memorandum[1] setting forth the conditions upon which grants from the Exchequer will in future be paid in respect to the training of midwives. The grants, he states, will be paid to recognised residential institutions as in the past, and will be made only in respect of students who intend to practise as midwives or as health visitors or who are already employed as full-time health visitors. Further, as the Central Midwives Board, with the approval of the Minister, have recently revised their rules relating to the training of midwives and have decided to increase the minimum period of training, the new conditions for the grants will provide for the increase required by the extended period of training, which comes into force on May 1st, 1926. With regard to the supply of midwives, a circular (No. 559),[2] issued by the Ministry to local supervising authorities under the Midwives Acts, states that in rural areas where there are special difficulties in securing and maintaining an adequate supply of trained midwives, the Minister will be prepared to approve of contributions being made by a county council to the County Nursing Association in respect of the provision of trained midwives for service in the area of the council. These contributions will rank for the Exchequer grant of 50 per cent. under the Maternity and Child Welfare Regulations. It is intended that the contributions made by the County Council for the provision of midwives should take the place of any contributions which are or have been made by local authorities towards the cost of the training of midwives.

[1] Memorandum as to the Conditions upon which Grants will be made by the Minister of Health in Aid of the Training of Midwives. Memo 102/M.C.W. London: H.M. Stationery Office. 2*d*.

[2] Training and Supply of Midwives. Circular 559. London: H.M. Stationery Office. 1*d*.

## X RAY APPARATUS.

WE have received from Messrs. Watson and Sons a catalogue (No. 68) of X ray apparatus and radium, and on examination it brings home the point that in the future it will be well if the student looks more carefully at the manufacturers' catalogues for descriptions of apparatus, while the writers of text-books might cease giving a third of their space to such technical detail. The present example gives a good list of modern and up-to-date apparatus, although perhaps there are not many novelties. Several useful improvements to Watson's well-known screening stand are shown, while on p. 155 the description of the new Gaiffe-Gallot and Pilon constant tension apparatus for deep X ray therapy is of real interest. The text is accompanied by a useful diagram. It is one of the few catalogues which devotes a good sized section to radium and radium apparatus, and although in so individualised a subject as radium therapy not a great deal of help can be given, many of the illustrations give valuable hints of different workers' technique. The whole catalogue is well printed. Messrs. Watson and Sons (Electro-Medical), Ltd., with whom are incorporated the X ray sections of the General Electric Company, Ltd., the British Thomson-Houston Company, Ltd., are contractors to the Admiralty, War Office, India Office, and many foreign Governments, and the address is Parker-street, Kingsway, W.C. 2.

## AMBULANCE COMPETITION TESTS.

THREE further additions to the series of folders prepared by Dr. Corbet Fletcher (John Bale, Sons and Danielsson, Ltd., 6*d*. per folder) for ambulance competition tests have recently been issued. These consist of special articles, hints on competitions, and a series of questions based upon the St. John Ambulance Association's Manual. No. 4, the first of the present series, deals with errors in treatment, No. 5 with the history of competitions and tests, and No. 6 with the preparation of competitions. They should prove valuable to the ambulance student preparing for examination, and to the examiners themselves.

## BARBAROUS ENGLISH.

*To the Editor of* THE LANCET.

SIR,—May I be allowed to enter what I hope will seem a timely protest against the threatened introduction into English medical literature of barbarisms such as "to evaluate" instead of "to value"; "to stress" instead of "to lay stress upon"; "view-point" instead of "point of view"; "such and such diet *was fed to* such and such an animal" instead of "such and such animal *was fed with* such and such diet," and the like? I would quote in this connexion the exceedingly apposite remarks of Peter Mark Roget, himself a member of our profession, on the use of such expressions in the beautifully-written introduction to his well-known "Thesaurus of English Words and Phrases."

"Some modern writers, however, have indulged in a habit of arbitrarily fabricating new words and a new-fangled phraseology, without any necessity, and with manifest injury to the purity of the language. This vicious practice, the offspring of indolence or conceit, implies an ignorance or neglect of the riches in which the English language already abounds, and which would have supplied them with words of recognised legitimacy, conveying precisely the same meaning as those they so recklessly coin in the illegal mint of their own fancy."

I enclose my card and remain, Sir,

Yours faithfully,

March 5th, 1925. M.A., M.D.

*M. P.*—A certain disability on returning to the erect position after prostatectomy is not unusual. It is possibly due to the thick band of fibrous tissue which forms around the drainage-tube from the bladder to the abdominal wall, which is pulled upon when the patient gets up and begins to walk about. The disability appears to be more pronounced after an operation in two stages than after an enucleation at one, but it is difficult to get reliable evidence on this point.


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